

# California

## MEDICINE

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# California M E D I C I N E

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## Effective Treatment of Socialistic Hypertension

DONALD CASS, M.D., *Los Angeles*

A YEAR ago Dr. R. Stanley Kneeshaw, then president of the California Medical Association, described Uncle Sam as a sick man. I want to supplement his findings and report to you on the state of the patient.

Uncle Sam is still a sick man but his condition has improved considerably in the past year. His disease has been conclusively diagnosed as socialistic hypertension and it is comforting to all of us to know that he has improved and shows signs of further gains. The prognosis is excellent.

The reason for the improvement is that scientific medicine has been called into the case, to replace the quackery of the bureaucratic planners who were dabbling in something beyond the realm of their knowledge. Doctor M.D. has awakened to the fact that he must bend his best efforts to cure a deteriorating condition which would otherwise carry away the patient and all that surrounds him.

To state the case bluntly, the medical profession has at last been aroused to recognition that it must engage in the economics and the politics of our population. No longer can medicine confine its activities to the sickroom or the laboratory; as physicians we must take an active part in the social and the political life of our country. We must roll up our sleeves and get into the political arena if our profession is to survive as a vibrant, factual scientific pursuit.

The alternative is the enslavement of physicians by government with the certain leveling-off to the lowest common denominator. If we want to maintain high standards of medical practice, we must put our efforts into economic and political pursuits as well as into the scientific endeavors for which we have been especially trained.

Address of the President, California Medical Association, at the 80th Annual Session, Los Angeles, May 13-16, 1951.

During the past year it has been my privilege to travel several thousand miles about the state of California, visiting with county medical societies, woman's auxiliaries and other groups. The object of these many meetings was to bring home to the physicians of California the need for each to apply himself to the betterment of public relations for the entire profession. We tried to put each physician into his own proper sphere by pointing out that the public relations of each physician are, in sum total, the public relations of the profession. I hope that at least a portion of the profession has given some thought to this problem as a result of those visits.

It was most heartening to note, in traveling around the state, that many of the county medical society members are young men. The membership of our Association has doubled in the last ten years and has increased almost 75 per cent in the last seven years. New medical blood has been coming to our state. Many of the new physicians are young men who served their country during the recent war and determined to settle here after their active duty was finished.

Not only are many of these new physicians in the younger age brackets, they are also in the high intelligence brackets—the product of a strict system of medical education which selects only the cream of the crop for our modern physicians.

When I was a medical student, about half the applicants for medical schools were accepted. Today there are seven, eight, ten applicants for every opening in medical schools, and the deans and faculty committees wisely choose those applicants who exhibit the highest mental ability along with the other attributes we generally look for in a good physician.

We have need of this youth and this intelligence. We must put it to work in fighting the miasma of

socialism which rises from the political swamps of our nation. We must practice the best medicine we know, and in addition we must fight with all in our power to prevent the socialization of our profession, not only because we are immediately affected but because the proposed socialization of medicine is the first step in a nationwide plan for the government to take over all forms of endeavor.

The do-gooders picked on physicians as the soft spot in driving their socialistic wedge into our economy. Physicians were to be socialized first and others would follow because of the bankruptcy into which socialized medicine would throw the nation. When the nature of the sly offensive against them became apparent, physicians rallied first for defense and gradually for attack, so that now, instead of being the soft spot, we are the hardened point leading the entire community in education as to what is being attempted by the social planners who would take away our American way of living.

The continued attack by government agencies on the honesty of the American Medical Association and organized medicine has lost a great deal of its craft and cunning and has taken the form of tirades, such as the one by Congressman Dingell printed in the *Congressional Record*. The attack on Dr. Elmer Henderson, president of the A.M.A., which was sent to all physicians by the Committee for the Nation's Health, indicates how the supporters of socialism are at desperate lengths to continue the attack when there is so little basis of truth on which to base any further logical arguments.

Recently I saw a quotation from "Alice in Wonderland" in which the Mock Turtle said to Alice: "When we were little we went to school in the sea. We had the best of education, reeling and writhing, of course, to begin with, and the different branches of arithmetic, ambition, distraction, uglification, and derision." It seems as though the social planners are schooling themselves in the same way that the Mock Turtle was schooled. Their attacks on the American free enterprise system are being fronted by those who use ambition, distraction, uglification and derision as their ammunition.

#### WELCOME AID FROM MANY QUARTERS

The publication of these attacks has become less and less front page news and practically all of our best journals and our best newspapers and writers are quoting more and more from Dr. Henderson and the A.M.A. and less and less from the Ewings and the Frothinghams and the Dingells and the Murrays. This is evidence that the socialistic toxin in Uncle Sam's system is being neutralized by the efforts of the American physicians.

It is no accident that our activities and our campaign of education drew twice as much from our friends in support of our campaign as we ourselves put in. Help came from many and many Americans who still believe in America—who believe that Americans can think and do for themselves, who prefer earning a square meal to languidly accepting

the sugar-tit of socialism. As was noted in Leone Baxter's report to the A.M.A., this outside support did not come from the large corporations or the large money interests. Rather, some sixty thousand contributions, in the form of space in newspapers and magazines and time on television and radio, came from the merchant on Main Street. This means a lot, because the Main Street merchant is a good, sound segment of the backbone of our nation. Add to this the help given by organized labor and the inference is amazingly pleasant.

#### LABOR OFFICIALS' ATTITUDE

At the outset, among the strongest supporters of the Administration's socialized medicine plan were certain top brass officials of labor. In the past year, especially since last November, there has been a distinct change in the tone of remarks made in addresses by some of these men. In June 1950, when Mr. Harry Becker of the United Auto Workers\* addressed the A.M.A. convention in San Francisco, he dwelt on the necessity of a compulsory tax-supported medical care plan. But in an address later in the summer in Kansas City, while he said that labor is interested in welfare plans, he left out the compulsory part. This may seem a trivial thing, but it is a very important change in Mr. Becker's speeches.

Mr. William L. Hutcheson, vice-president of the American Federation of Labor and president of the United Brotherhood of Carpenters and Joiners of America, in his speech at the A.M.A. meeting in Cleveland last December, denounced socialized medicine and stated: "Any way you look at it, socialized medicine is no bargain, and the carpenters want none of it." The impact couldn't have been greater if the government planners and political advocates of socialized medicine had been told they had to go to work for a living.

We hope to continue in our campaign of education to reach deeper and deeper into the grass roots of medical practice so that more and more the physicians will become the advisors of their patients and of their legislators on those matters on which they are the best informed—that is, matters pertaining to the health of the American people. I hope that the California Medical Association will recognize that it is impossible to relax for an instant in its campaign, and that all of you who are here at this convention will go back to your local groups, not only to your county medical societies, but to your hospital staff meetings and meetings with your luncheon clubs—Rotary, Kiwanis, Lions, Optimists—to your religious groups, your social groups, your card clubs, your P.T.A.'s, and continue to serve as advisors on problems of medical care for all of your friends and associates as well as your patients. This is the way that the medical profession can really spread knowledge and education to those who are voting and to those who need it most.

\*Director, Social Security Department, United Automotive-Aircraft-Agricultural Implement Workers of America, C.I.O.



Now that the sleeping giant of medicine has stirred himself, has made himself felt, I am sure that the future means that the giant will take his place with other giants in educating the world. The individual enterprise and opportunity which built our country up to the prestige that it enjoys today must go on, and physicians must stay in the forefront of the campaign to educate people as to the best way of living. Nobody but a physician can advise people on medical topics.

The old wheeze that a liberal is a man who has his feet firmly planted on thin air still holds. The solid, intelligent, thinking public is finding out that this foundation of thin air supporting our social-

minded opponent is an insecure base indeed on which to build a national economy.

Uncle Sam now has a physician who is giving him full attention. And the physician is calling on his neighbors to help. In the Woman's Auxiliary he has found eager aid from a power that, as any man knows, is never to be underestimated.

We must go on from here, keep it up, take advantage of the new blood we have, and travel along the road that we have started, not only to prevent further inroads by the social-minded public ownership group, but to drive them out, and to put a base of sound sense under our efforts for social improvements.

5300 Hollywood Boulevard.

## Results of Long-Continued Cortisone Administration in Rheumatoid Arthritis

EDWARD W. BOLAND, M.D., and NATHAN E. HEADLEY, M.D., Los Angeles

### SUMMARY

*The administration of cortisone acetate to patients with rheumatoid arthritis usually produces prompt and often dramatic suppression of the disease manifestations. The effects of the hormone are not lasting, however, and after withdrawal relapse ensues. For sustained improvement in a chronic disease such as rheumatoid arthritis, it appears that cortisone must be given more or less continuously. This raises the question whether administration may be continued effectively and safely for long periods.*

*Seventy-six patients with rheumatoid arthritis were given cortisone in the hope that treatment could be continued uninterruptedly for extended periods. For various clinical reasons it was necessary to discontinue treatment in 16 of these before six months, but the remaining 60 patients received the hormone uninterruptedly for six to 15 months. By using initial large suppressive amounts, then gradually reducing the dosage, and finally employing smaller maintenance doses, adequate degrees of rheumatic control*

*were maintained in approximately two-thirds of the original 76 patients. The ability to sustain satisfactory improvement varied indirectly, in general, with the severity of the rheumatoid arthritis. The chief detriment to better results in the more severe cases was the intervention of adverse hormonal side effects which developed frequently when large or relatively large maintenance doses were required to support satisfactory improvement.*

*Unwanted signs of hormonal excess developed in 40 per cent of cases at some time during the course of treatment. Most of them were mild or transient and disappeared or lessened when the dose of cortisone was reduced, but when the dose was reduced the degree of improvement often declined also.*

*During prolonged cortisone therapy evidence of functional suppression of the adrenal cortices, as indicated by a decreased response of circulating eosinophils to exogenous ACTH, was present. The depression of cortical function was temporary, however. Whether irreversible damage may result when the drug is employed for longer periods cannot yet be answered.*

WHEN cortisone acetate is administered in adequate doses to patients with active rheumatoid arthritis, prompt and often dramatic improvement of the clinical and certain laboratory manifestations of the disease results. Articular pain, stiffness and tenderness are diminished with impressive consistency and such reversible changes as articular or bursal effusion, periarticular swelling, muscle weakness and atrophy, subcutaneous nodules, mild flexion contractures, low-grade fever, weight loss, anemia and accelerated erythrocyte sedimentation rates are corrected or reduced. Unfortunately, however, the effects of cortisone are not lasting and, with almost as impressive consistency, the disease manifestations reappear when the hormone is withdrawn. For sustained improvement the drug must be given more or less continuously. The ultimate course of rheumatoid arthritis is probably not altered significantly by cortisone and the beneficial effects from its administration reflect a suppressive, not a curative, influence.

Presented as part of a symposium on Cortisone and ACTH before the Sections on General Medicine and General Practice at the 80th Annual Meeting of the California Medical Association, May 13-16, 1951, Los Angeles.

Patients with rheumatoid arthritis apparently have normally functioning adrenal glands<sup>8,12</sup> as indicated by lack of clinical signs of adrenocortical insufficiency and absence of evidence of hormonal deficiency from the various tests now available.<sup>14</sup> The amounts of cortisone needed for satisfactory antirheumatic response are large and probably greater than the quantities of corticosteroids which the patient's own adrenal glands would supply in normal circumstances. Hence the improvement which results from cortisone administration does not represent correction of a glandular deficiency by substitution therapy but rather a favorable effect from an exogenously induced state of hormonal excess. Cortisone exerts potent influences on the functions of many organs and tissues, and with its continued administration unfavorable hyperadrenocortical effects may also be promoted. Aside from the beneficial action on rheumatic manifestations, such unwanted signs of hypercortisonism as disturbances in electrolyte, water and carbohydrate metabolism, skin changes such as hypertrichosis, acneiform eruption, pigmentation and striae, abnormal fat deposition, menstrual disorders, mental

changes and retardation of wound healing may develop with its use.

Since the suppressive influence of cortisone endures for only as long as the drug is being given, and since rheumatoid arthritis is a chronic and often progressive disease, it would appear necessary to maintain therapy indefinitely, at least in most cases, if improvement is to be sustained. The practicability of employing cortisone continuously for long periods raises three main questions: (1) Can the anti-rheumatic action of the hormone be maintained with long-continued use, or will improvement eventually deteriorate and relapse occur? (2) Can administration be continued for long periods without causing significant hormonal side reactions? (3) Will prolonged uninterrupted treatment produce irreversible damage to vital organs, especially permanent impairment of adrenocortical function? With a view to obtaining information which might aid in answering these questions, an investigation of the effects of uninterrupted cortisone therapy in patients with rheumatoid arthritis was begun in January 1950.

#### PRELIMINARY STUDY

In September 1950 preliminary observations with regard to 42 patients treated continuously with cortisone acetate given intramuscularly for periods ranging from two to six months were reported.<sup>1</sup> The dosage plan followed consisted of three stages: (1) period of initial large suppressive doses; (2) period of gradual dose reduction; and (3) period of extended smaller maintenance dose administration. Initial suppressive doses were given until the clinical manifestations were brought under control. For severe and moderately severe cases 200 or 300 mg. of the hormone was administered on the first day, followed thereafter by daily injections of 100 mg.; for moderate and mild cases, 100 mg. was given on the first and subsequent days. When rheumatic activity had been suppressed satisfactorily by 100 mg. doses, the daily amounts of cortisone were then reduced gradually in a step-like fashion, reductions being made by 5 to 10 mg. per dose at intervals of every five to seven days. The smallest daily amount of cortisone required to maintain adequate, although not necessarily absolute, control was considered as the maintenance dose for the patient. The maintenance dose was then continued, with adjustments in the daily amounts being made from time to time as changes in the clinical response or the development of objectionable reactions dictated. Sustained complete remission of the disease was not sought; it was found more prudent at times to be content with satisfactory improvement short of adverse effects rather than to strive for total suppression with larger and unsafe doses.

By first suppressing the disease with large doses of the hormone it was possible to retain control with smaller maintenance doses in 32 (76 per cent) of the 42 patients. The size of the maintenance dose required for control depended chiefly on the severity of the rheumatoid arthritis. In general, more

of the hormone was needed in severe cases than in less severe cases: With average daily doses of 50 mg. or less given intramuscularly, for example, adequate suppression of the disease was maintained in 100 per cent of mild cases, 89 per cent of the moderate, 53 per cent of the moderately severe, and in only 7 per cent of the severe. The incidence of unwanted hormonal effects was decidedly less when smaller daily amounts of the drug were used; signs of hypercortisonism developed in only 8.3 per cent of patients when the daily dose was 65 mg. or less and in 33 per cent when doses of 100 mg. daily were employed. Because the periods of observation were relatively short (two to six months) the question as to whether cortisone could be administered safely and effectively for periods of many months or years could not be positively answered.

#### PRESENT STUDY

The observations to be reported herein result from a continuation and expansion of the previously reported investigation. With the hope of administering cortisone uninterruptedly for prolonged periods in each instance, 76 patients with chronic rheumatoid arthritis were started on treatment between January 1 and September 1, 1950. In 16 cases treatment was stopped for various clinical reasons within the first six months. The remaining 60 patients, however, have received cortisone continuously for longer than six months, and 27 of them for periods exceeding one year. Experiences with these 60 patients constitute the principal basis for this report.

*Selection of Patients:* Of the 76 patients, 45 were women and 31 were men. Ages varied from 19 to 80 years. The arthritis was restricted to peripheral joints in 56 patients, to the spine in 3, and 17 had combined involvement of the peripheral joints and the spine. The average duration of the disease for the group was 7.2 years with a range from seven months to 26 years. All patients had active disease and acceleration of the erythrocyte sedimentation rate, although they presented varying degrees of functional impairment and structural change. The rheumatoid arthritis was classified as severe in 36 patients, moderately severe in 27, moderate in 12, and mild in one.

*Manner of Administration:* During the early months of the investigation all patients received the hormone by intramuscular injection. Since June 1950 most patients have been given the drug by mouth, either in tablet form or as a liquid prepared by mixing the suspension, as supplied for parenteral use, with a flavored syrup. Fifty-four of the 60 patients treated for long periods have received oral preparations. Most of those initially treated by the intramuscular route were transferred to oral medication, and all of those started on cortisone since June 1950 have received the drug by mouth. When comparing statistics dealing with dosage requirements, it must be kept in mind that the amount of cortisone needed by mouth for equivalent anti-

rheumatic control may be larger than the amount needed when it is given by intramuscular injection; the oral requirement may be one-fifth to one-third greater.<sup>2</sup>

The same general dosage plan, as described under the preliminary study, was adhered to regardless of the route of administration. Results were decidedly best when full suppressive amounts of the hormone were given at the beginning of treatment and the dose then gradually reduced until the smallest dose needed to control the manifestations was reached. With oral preparations, gradual step-down of dosage was accomplished by reducing the amount 12.5 mg. at a time at intervals of every five to seven days. The amount prescribed orally was usually taken in divided doses four times daily; and intramuscular injections, when used, were given daily or every other day. Most patients were treated in the office from the beginning, but a few with severe disease were hospitalized for short periods initially.

**Grading of Results:** The response to therapy was graded on the basis of objective and subjective improvement into five categories: very pronounced, pronounced, moderate, slight, and unimproved.<sup>1, 8</sup> To retain a very pronounced degree of improvement in severe and moderately severe cases, it may be necessary to employ large daily maintenance doses of the hormone. With the long-continued use of large doses, such as 100 to 150 mg. per day, however, troublesome signs of hormonal excess are frequent and often they become so pronounced as to necessitate discontinuation of treatment. After large daily amounts of cortisone had been given as early suppressive therapy, attempt then was made to use the minimum dose required for satisfactory, not necessarily total, control of the disease. By such a plan it was hoped to prevent, as far as possible, serious signs of hypercortisonism. The degree of sustained improvement from maintenance doses was considered adequate if the patient was able to perform his normal business or duties comfortably without analgesics, but with perhaps some restriction in physical activity. In most instances "adequate control" was equivalent to improvement graded as pronounced or better.

#### RESULTS OF PROLONGED CORTISONE ADMINISTRATION ON RHEUMATIC MANIFESTATIONS

The maintenance dosage requirements and the degrees of clinical improvement were subject to variations from time to time in many patients, but these

can be dealt with herein only in generalities. The statistics presented are based on clinical evaluations completed on March 31, 1951, and undoubtedly they will differ from results compiled at a later date when this group of patients has been followed longer.

**Over-all Results:** As was noted previously, cortisone therapy was stopped within the first six months in 16 cases. The reasons were as follows: (1) In eight patients the degree of improvement was not sufficient, even with the use of large daily doses, to warrant prolongation of treatment. In four patients the improvement was never more than moderate, and in two (both with spondylitis only) no improvement at all was noted. Two patients experienced excellent early response but after two and four months, respectively, relapse occurred despite increasing amounts of the hormone. Five of the eight patients had very severe rheumatoid arthritis, and whereas massive doses of cortisone might have produced better results, long-continued use of the hormone in such amounts would have been unsafe and hence impractical. (2) In seven instances the drug was stopped because unduly troublesome hyperadrenocortical effects developed. In five of these cases the patients had severe disease and desired degrees of relief could not be supplied with daily doses small enough to avoid side reactions. (3) One patient experienced complete clinical remission after four months of treatment. The dosage was gradually lowered and finally administration was discontinued. Remission lasted for nearly five months but then gradual recrudescence ensued and recently treatment was resumed.

The remaining 60 patients were treated without interruption for periods ranging from six to 15 months. A satisfactory degree of improvement (pronounced or very pronounced) was maintained in 48 of the patients; the other 12 remained improved but the degrees of control were considered minor and inadequate (Table 2).

If the entire original group of 76 patients is considered (and if one patient who had remission is excluded), the manifestations of rheumatoid arthritis were held under satisfactory suppression for long periods with maintenance doses of cortisone in slightly less than two-thirds (48 of 75) of the patients (Table 1).

**General Results in Patients Treated for Periods of Six Months or Longer:** In the 60 cases in which treatment was continued for periods of six to 15 months, the degree of improvement maintained was

TABLE 1.—Cortisone Therapy in Rheumatoid Arthritis: Overall Results in Entire Series of 76 Patients

Severity of Disease	No. of Cases	Adequate Anti-rheumatic Control for 6 Months or Longer		Inadequate Anti-rheumatic Control but Therapy Continued for 6 Months or Longer		Cortisone Discontinued			
		No.	Per Cent	No.	Per Cent	Inadequate Initial Response	Early Deterioration of Improvement	Adverse Hormonal Reactions	Clinical Remission
Severe .....	36	17	47.2	8	22.2	5	1	5	0
Moderately Severe .....	27	19	70.4	4	14.8	1	1	1	1
Moderate .....	12	11	91.7	0	0	0	0	1	0
Mild .....	1	1	100	0	0	0	0	0	0
Totals .....	76	48	63.2	12	15.8	6	2	7	1



graded as very pronounced in 18 (30 per cent), pronounced in 30 (50 per cent), moderate in 11 (18.3 per cent), and slight in one (1.7 per cent) (Table 2).

Of the 12 patients who retained only minor degrees of improvement, five had adverse effects from the drug which prevented the use of doses sufficient for proper regulation of the disease, and five (three with severe and two with moderately severe rheumatoid arthritis) had no more than moderate improvement even with full amounts of the hormone. In the remaining two patients excellent control was sustained for ten and thirteen months, respectively, on doses averaging 37.5 to 62.5 mg. per day; and then, for no apparent reason, relapse occurred and increasing amounts of cortisone, up to 125 mg. per day, did not reestablish satisfactory response.

**Results in Relation to Severity of Disease:** It has been reported previously that the results from both large initial suppressive and from smaller maintenance doses of cortisone are distinctly better in patients with less severe rheumatoid arthritis.<sup>1</sup> Actually, the likelihood of promoting and retaining major degrees of improvement depends more on the severity of the disease than on any other single factor. In some severe cases adequate relief is not obtained even with large amounts of the hormone, while in others in which there is excellent response the patient cannot tolerate the required large doses for long periods because of attendant objectionable hormonal reactions.

In the 25 severe cases treated for more than six months, pronounced improvement was preserved in 16 and very pronounced improvement was upheld in only one (Table 2). The rheumatoid arthritis was graded as severe in 36 of the original 76 cases in the series—and in 11 of these cases treatment was stopped before six months either because of insufficient improvement or adverse reactions. For the whole series, therefore, less than one-half of severe cases (17 of 36) were adequately controlled by long-term therapy.

In the moderately severe classification, very pronounced or pronounced improvement was maintained in 19 of the 23 (82.6 per cent) cases treated for a long period and in 19 of the 27 (70 per cent) original cases.

The best results were obtained in cases of less

severe rheumatoid arthritis: Pronounced or very pronounced improvement was obtained in all cases of moderate or mild degree of severity treated for a long period, and in 11 of the 12 original cases so graded.

**Size and Stability of Maintenance Doses:** Although there were notable exceptions, the daily amounts of cortisone required to support satisfactory regulation of the rheumatoid arthritis varied directly with the severity of the disease—in general, the more severe the disease, the more cortisone required. The average daily maintenance dose for the various groups was as follows: severe, 80.5 mg.; moderately severe, 64.1 mg.; moderate, 55.4 mg.; mild, 37.5 mg. (Table 1). The average dosage for severe and moderately severe cases would have been higher if the amounts needed for satisfactory results could have been given in all cases; this was not possible, however, as the dosage frequently had to be modified, with detriment to antirheumatic control, because of the advent of adverse reactions. The tabulated dosages are for oral administration in the majority of cases (54 of 60) and the average requirements are probably slightly higher than they would be for a comparable group treated wholly by parenteral injection.

During the course of observation variations in the amounts of cortisone needed for control were common and in most cases it was necessary to change the dosage from time to time. In 36 of the 60 patients (60 per cent) dosage requirements were quite stable and only minor adjustments were needed periodically. In nine cases the dosage remained fairly constant except that temporary exacerbations occurred on one or more occasions which required "booster doses" for the resumption of adequate control. Booster doses usually consisted of 100 or 125 mg. of cortisone daily for four or five days, followed by gradual reduction to the previous level. The need for temporary increases was at times provoked by some additional stress such as physical overactivity, emotional upset, intercurrent infection and fatigue. At other times departures from the usually required amounts appeared to be caused by spontaneous changes in disease activity.

In four patients the amounts of hormone needed fluctuated rather widely from time to time. One patient with moderately severe rheumatoid arthritis, for example, remained under almost complete con-

TABLE 2.—Long-Continued Cortisone Therapy in Rheumatoid Arthritis: Results in Patients Treated Uninterruptedly for 6 to 15 Months

Severity of Disease	No. of Cases	Maintenance Dose Required (mg.)		Degree of Improvement Maintained						Degree Improvement Judged Adequate				Adverse Hormonal Effects			
		Average for Group	Range	Very Pronounced		Pronounced		Moderate		Slight		Adequate			Inadequate		
				No.	%	No.	%	No.	%	No.	%	No.	%		No.	%	
Severe .....	25	80.5	37.5-125	1	4	16	64	7	28	1	4	17	68	8	32	14	56
Moderately Severe	23	64.1	37.5-100	8	34.8	11	47.8	4	17.4	0	0	19	82.6	4	17.4	8	34.8
Moderate .....	11	55.4	37.5-75	8	72.7	3	27.3	0	0	0	0	11	100	0	0	2	18.2
Mild .....	1	37.5	37.5	1	100	0	0	0	0	0	0	1	100	0	0	0	0
Totals .....	60	68.8	37.5-125	18	30	30	50	11	18.3	1	1.7	48	80	12	20	24	40

trol for eight months on maintenance amounts averaging 50 mg. per day. For no apparent reason the cortisone requirement increased and for the next four months daily doses of 100 to 125 mg. were used. The requirement then gradually lessened and for three months up to the time of this report excellent antirheumatic effect has been maintained with 37.5 to 50 mg. a day. Such variations in dosage may well be due to spontaneous fluctuations of disease activity. Not infrequently the course of rheumatoid arthritis is subject to ups and downs of activity, and when this occurs it is reasonable to expect that the dosage requirement of a suppressive drug would vary with natural oscillations of the disease.

In five patients the cortisone requirement gradually increased over the months. The initial response to suppressive doses was excellent in each instance and good control was maintained on fairly stable doses for long periods. Deterioration of improvement then began and increasing amounts of the hormone were needed to support relief. Two patients became more and more active physically and, disregarding advice, assumed additional business responsibilities; but no reason for the declension of results was elicited in the other three. In two patients the disease finally became refractory to even large doses and eventually cortisone administration was stopped after 10 and 13 months, respectively, of continuous therapy.

In six patients, after long periods on relatively constant doses, there was gradual decrease in the amounts of cortisone needed. Maintenance doses as low as 25 mg. per day finally became sufficient for three patients and, with the hope that remission might continue, treatment was stopped after seven, nine, and ten months respectively; relapse occurred in one patient after two months, in another after seven weeks, and in the third withdrawal has been too recent to permit comment.

#### ADVERSE EFFECTS FROM PROLONGED CORTISONE ADMINISTRATION

Twenty-four (40 per cent) of the 60 patients had undesirable hormonal side effects at some time during the course of administration. Twelve had a single abnormality and 12 had multiple reactions; a total of 45 adverse signs were observed in the group. In many instances the signs of cortisone excess were of minor order or transient and were considered of little or no consequence by both the patients and the authors. Of the 45 side effects, 31 were graded as mild, 13 as moderate, and one (spontaneous vertebral fracture) as severe. In two patients the signs became sufficiently troublesome to necessitate cessation of therapy, after seven months of administration in one and after 11 months in the other.

As has been reported previously, unfavorable reactions are fewer and usually less pronounced when smaller doses of cortisone are used.<sup>1</sup> Of the 24 patients who had side effects, 17 were being maintained with total daily doses of 75 mg. or more, six were receiving 62.5 mg. per day, and one was being given 50 mg. daily. Because, in general, the amount

of cortisone needed for suppression varies directly with the severity of the disease, the incidence of untoward reactions was higher in the more severe cases.

The individual adverse hormonal reactions which were observed are listed in Table 3. Experiences with them differ little from those reviewed previously by the authors<sup>1, 3, 4</sup> and by other investigators,<sup>6, 8, 9, 12</sup> so only a few will receive comment. The most common abnormalities were rounding of the facial contour, and edema. Both of these conditions usually responded readily to dosage reduction, and the elimination of water could be hastened with saline or mercurial diuretics. The occurrence of significant edema may be largely avoided by placing patients on a salt-poor diet from the start of treatment. Mild to moderate hypertrichosis developed in seven women; in two it became cosmetically troublesome and the excess facial hair was removed by electrolysis. As experience with cortisone has enlarged, fewer instances of undue psychic stimulation have been encountered; use of the drug is now avoided in patients with psychotic histories or with overt emotional instability. Also, mental stimulation and insomnia are less when smaller maintenance doses are employed and, it is believed, when oral medication is used.

Two other reactions deserve mention. Significant decreases in glucose tolerance developed in three patients, one with a normal pretreatment tolerance curve and two with latent diabetes beforehand. Each patient has had occasional glycosuria, but with moderate qualitative carbohydrate restriction (and without insulin) the abnormalities have been well controlled. One patient had spontaneous fracture of the twelfth dorsal vertebra after 53 days of treatment; he had coexistent latent diabetes mellitus and pronounced osteoporosis of the spine before treatment. The fracture responded favorably to orthopedic management and cortisone was not discontinued. Spontaneous fractures have been reported by other investigators.<sup>7, 11</sup> Spinal roentgenograms for osteoporosis should be made in any case in which the candidate for cortisone or ACTH therapy is elderly.

#### EFFECTS OF PROLONGED CORTISONE THERAPY ON ADRENOCORTICAL FUNCTION

Certain laboratory and clinical observations suggest that cortisone causes a temporary depression of adrenocortical function. During administration there is a reduction in the urinary excretion of 17-ketosteroids<sup>5, 13</sup> and, as gauged by the eosinopenic test, there is a diminished response to pituitary adrenocorticotrophic hormone.<sup>13</sup> Immediately or soon after the withdrawal of cortisone, some patients complain of weakness and exhaustion and these symptoms have been interpreted as being due to adrenocortical insufficiency.<sup>3, 13</sup> With short-term or relatively short-term administration, the abnormalities have been temporary; at varying intervals following cessation of treatment, asthenia has disappeared and the results of tests have reverted to

TABLE 3.—Individual Adverse Hormonal Side Reactions in Patients Receiving Continuous Cortisone Therapy for 6 to 15 Months

Case No.	Sex	Average Daily Dose at Onset (mg.)	Onset in Relation to Length of Treatment			Severity of Reaction	Type of Reaction										Fate of Reaction on Continued Treatment				
			Before 3 Months	Between 3 & 6 Months	After 6 Months		Purpura	Pigmentation of Face	Mooning of Face	Skin Tags	Thyroid Enlargement	Nervousness	Edema	Menstrual Disturbance	Acne	Hypertrophicosis	Decreased Glucose Tolerance	Progressed	Stationary	Improved	Disappeared
1	M	75.0	+			Mild											+				
2	F	75.0		+		Mild															
3	F	75.0	+			Mod. (1, 2, 3, 4)															
4	M	100.0		+		Mod. (1 & 2)															
5	F	87.5				Mild															
6	M	75.0	+			Mild (1 & 2)															
7	M	100.0				Mild															
8	F	100.0 (1&2) 62.5 (3&4)	+			Mod. (1 & 2)															
9	F	75.0				Mild															
10	F	100.0	+			Mod. (1)															
11	M	75.0	+			Mod. (1)															
12	F	75.0	+			Mod. (1)															
13	F	100.0 (1) 50.0 (2)	+			Mild (1 & 2)															
14	F	75.0		+		Mod. (1)															
15	F	100.0				Mild															
16	F	62.5	+			Mild															
17	F	62.5		+		Mild (1 & 2)															
18	M	75.0	+			Mild															
19	F	62.5				Mod. (1)															
20	F	62.5		+		Mild (1 & 2)															
21	F	62.5	+			Mild															
22	F	62.5				Mild															
23	F	50.0		+		Mild															
24	M	100.0		+		Mild															

\*In cases in which there was more than one kind of reaction, the numbers in parenthesis designate which kind, as listed in the column headed "Type of Reaction." In Case 3, for example, in following the line across it will be noted that edema, nervousness, thyroid enlargement and skin tags occurred in the first three months. In the last four columns on the same line (under the heading "Fate of Reaction on Continued Treatment") it will be noted that thyroid enlargement and skin tags progressed, that nervousness improved, and that edema disappeared.



normal.<sup>13</sup> No studies relating to the recovery of adrenocortical function after long-term administration have been reported.

Fear has been expressed that the long-continued uninterrupted use of cortisone might produce irreversible atrophy and permanent functional insufficiency of the adrenal cortices. It has been repeatedly observed that regressive morphologic changes may occur in certain ductless glands following the administration of large amounts of the hormone secreted by the gland. In 1938 Ingle, Higgins and Kendall<sup>10</sup> found that atrophy of the adrenal cortex developed in rats which had been given large amounts of cortisone; cytoplasmic bodies were reduced in size and the cells were depleted of lipid material; the extent of the atrophy resembled those changes which result from anterior pituitary insufficiency in hypophysectomized animals. More recently Sprague and co-workers<sup>13</sup> demonstrated regressive changes in the adrenal cortices, at necropsy, of patients treated with cortisone for a variety of conditions. In some cases the glands weighed considerably less than normal and histologically the cortices, especially the *zona* fasciculatae, were narrowed and the cells were devoid of lipid material. From these pathologic studies there were, of course, no indications that the atrophy produced by cortisone was permanent, but other observations suggest that the anatomic and functional changes are probably reversible. In cases of Cushing's disease which result from a unilateral tumor of the adrenal cortex, the contralateral cortex undergoes distinct atrophy. Following surgical extirpation of the hyperfunctioning tumor, signs of adrenocortical insufficiency may develop immediately unless appropriate postoperative therapy is instituted, but eventually the contralateral cortex recovers and signs of adrenocortical insufficiency disappear.

To determine the recovery rate of adrenocortical function following prolonged uninterrupted cortisone therapy, the drug was withdrawn from 11 patients in the present series who were treated continuously for periods ranging from eight to 14 months. With the hope of minimizing post-cortisone asthenia and the development of acute articular flare-ups, withdrawal was accomplished slowly; the daily dose was gradually reduced over periods of 10 to 16 days. Maintenance doses for these patients had ranged from 37.5 to 100 mg. per day. The following tests of adrenocortical function were made: (1) response of circulating eosinophils to a single 25 mg. dose of pituitary adrenocorticotrophic hormone (ACTH) (test of Thorn, Forsham, Pruntz and Hills<sup>15</sup>); (2) urinary excretion of 17-ketosteroids; (3) urinary excretion of corticosteroids (11-oxy-steroids). The tests were performed while usual maintenance doses were being continued, 48 hours following complete cessation of the hormone, and every two to three weeks thereafter until the determinations returned to accepted normal values.

Details of this study will be reported separately.<sup>5</sup> As gauged by the response of circulating eosinophils

to adrenocorticotrophic hormone (ACTH), adrenocortical function was depressed in each case during the administration of cortisone—a decrease in eosinophils, four hours after a 25 mg. injection of ACTH, either did not occur or was definitely less than the accepted normal decrease of 50 per cent. At varying intervals after cessation of treatment, adrenal function, as indicated by this test, recovered. Following withdrawal, the eosinophil response gradually improved, becoming normal within 10 to 80 days in every case. There appeared to be no direct correlation between the degree of initial unresponsiveness or the rate of functional recovery with the length of cortisone administration, the size of the maintenance dose or the completeness of clinical improvement during treatment.

#### COMMENT

With the uninterrupted administration of cortisone acetate it has been possible to preserve satisfactory improvement for periods of six to 15 months in approximately two-thirds of cases initially started on treatment. Major degrees of suppression could not be supported in the remaining one-third of cases for several reasons. The most common detriment to good antirheumatic effect was the intervention of objectionable hormonal side effects; their appearance often necessitated lowering of the dosage to levels insufficient to uphold adequate clinical improvement. A few patients had gradual deterioration of improvement, and eventual refractoriness to the drug developed in two patients. Despite large suppressive doses of the hormone, effective response could not be established in some cases. However, massive doses (150-200 mg. per day) of cortisone for long periods were not used even in resistant cases, as in the authors' experience such amounts have almost invariably led to the development of troublesome signs of hormonal excess. The authors' attitude in regard to dosage for long-continued treatment with cortisone has been as follows: to employ amounts short of serious hormonal side reactions; to continue therapy if the arthritis can be satisfactorily controlled with safe doses—if not, to stop administration unless the patient is content with a minor degree of improvement.

Unfortunately the poorest results, percentage-wise, have been in the more severe cases of rheumatoid arthritis in which relief was most needed. Actually less than one-half of the original group of cases graded as severe have remained well-controlled for long periods. The failures in this group have been due principally to the fact that large doses of the hormone are required for satisfactory control and often it is not possible to give such doses without provoking signs of hypercortisonism; frequently a compromise between good antirheumatic effect and safety of administration must be made. It is apparent that for many patients with severe disease other measures designed to alter the activity of the disease will be needed in combination with cortisone if superior results are to be attained. At present the combined use of gold salts and cortisone is being



investigated in the hope that chrysotherapy may subdue part of the disease activity so that smaller, and safer, doses of the hormone will suffice to suppress the rest. Several schemes of administration are being tried by other investigators<sup>9</sup>: (1) repeated short courses of cortisone; (2) short courses of cortisone alternating with short courses of ACTH; (3) continuous combined use of cortisone and ACTH; (4) combined use of cortisone and ACTH in short courses; (5) simultaneous use of cortisone with other steroids. Evaluation of the merits of these various plans cannot be made at this time and must await the conclusion of investigative studies now in progress.

Serious hormonal side reactions have been largely avoided during the prolonged use of smaller maintenance doses of cortisone. Although numerically they have occurred frequently—in 40 per cent of cases—most have been of minor order and many have been transient. Their appearance has been disadvantageous chiefly because they may force reduction in dosage to the sacrifice of clinical response. Certainly a hormone with less tendency to produce adverse reactions, or one with equal liabilities but greater therapeutic effectiveness milligram for milligram, would be an advantage in the practical management of patients.

As other investigators have noted, a definite suppression of adrenocortical function develops during cortisone therapy. If the eosinophil response to ACTH is a valid test of adrenocortical function, it appears that the depressed function is temporary and the adrenal cortices recover even after replacement therapy has been given uninterruptedly for periods up to 14 months. Whether irreversible changes might develop in the adrenal cortex or anterior pituitary gland after continuous administration for longer periods cannot yet be answered. No evidence has evolved from studies by the authors to indicate that irreversible damage has been produced in other organs or tissues.

Never before have such powerful antirheumatic weapons as cortisone and ACTH been available. The ability of the drugs to promote prompt, though transitory, reversal of the activity in rheumatoid arthritis has made them extremely valuable experimental tools, and an unprecedented amount of clinical and laboratory research has already been stimulated. As therapeutic agents, however, various difficulties and dangers attend their use, and as experience widens, their limitations in the treatment of rheumatoid arthritis become more clear. These hormones have not solved the management of this disease—indeed, they have created new problems of their own. In the light of present knowledge, cortisone and ACTH should not be considered as drugs of choice for the treatment of all cases of rheumatoid arthritis. It should not be forgotten that good results may often be obtained from the employment of more conservative measures and from the administration of gold salts. If a fair trial with more usual methods of treatment does not produce improve-

ment, then the use of these newer hormonal substances may be considered. When the physician realizes that neither cortisone nor ACTH will cure rheumatoid arthritis, that their favorable effects consist merely of temporary suppression of the disease, and that in instituting them the patient is committed to prolonged and expensive treatment which is not without hazard, such a conservative attitude will be appreciated. Despite their introduction, rheumatoid arthritis remains a challenge to therapy, and although cortisone and ACTH are powerful adjuvants in the management of some cases, they are not the therapeutic answers for all cases, and apparently are not cures for any case.

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## Problems in Intramedullary Nailing of Femoral Fractures

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### SUMMARY

*Intramedullary nailing, an improved method for treatment of fractures of the shaft of the femur, is still in a transitional stage. Experience in 35 cases indicates that supplementary fixation as safeguard against separation or overriding often is advisable, particularly in the presence of considerable fragmentation. Wire loops, cross screws and, in some cases, a Collins band modified in such*

*a way as to avoid occlusion of blood supply, have been used for this purpose.*

*For strength and rigidity, the rod used should be as great in diameter as the medullary space can accommodate. A method of preoperative determination of the size of rod to use has been devised. As the intramedullary rod may bend or break, it is advisable that patients be cautioned against full weight bearing on the injured leg too soon after operation.*

**I**INTRAMEDULLARY nailing has been found ideally suited for the treatment of fractures of the shaft of the femur and promises to be the method of choice in a large number of such in-

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juries. The functional results have been far superior to those obtained with other methods, and the period of hospitalization considerably shortened—from five or six months to an average of three and one-half weeks in the authors' experience. However, as this method is still in a transitional stage of development,

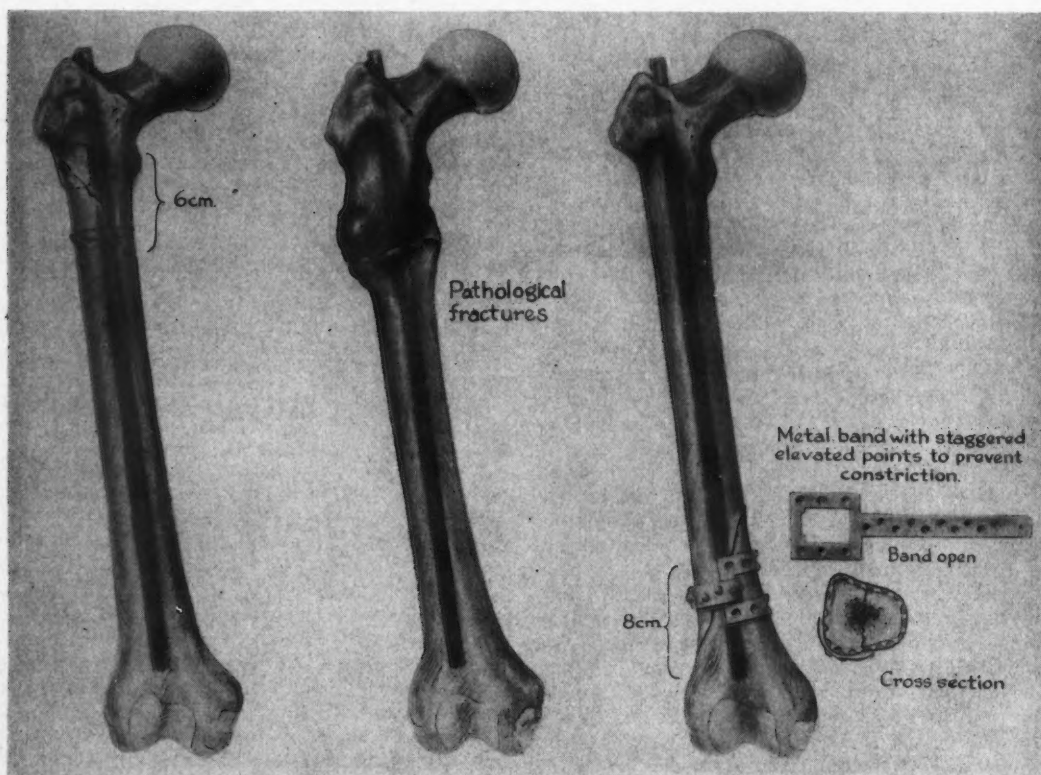


Figure 1.—Methods of supplementary fixation for high or low fracture of femur. Drawing at right is of Collins band modified to prevent occlusion of blood supply.

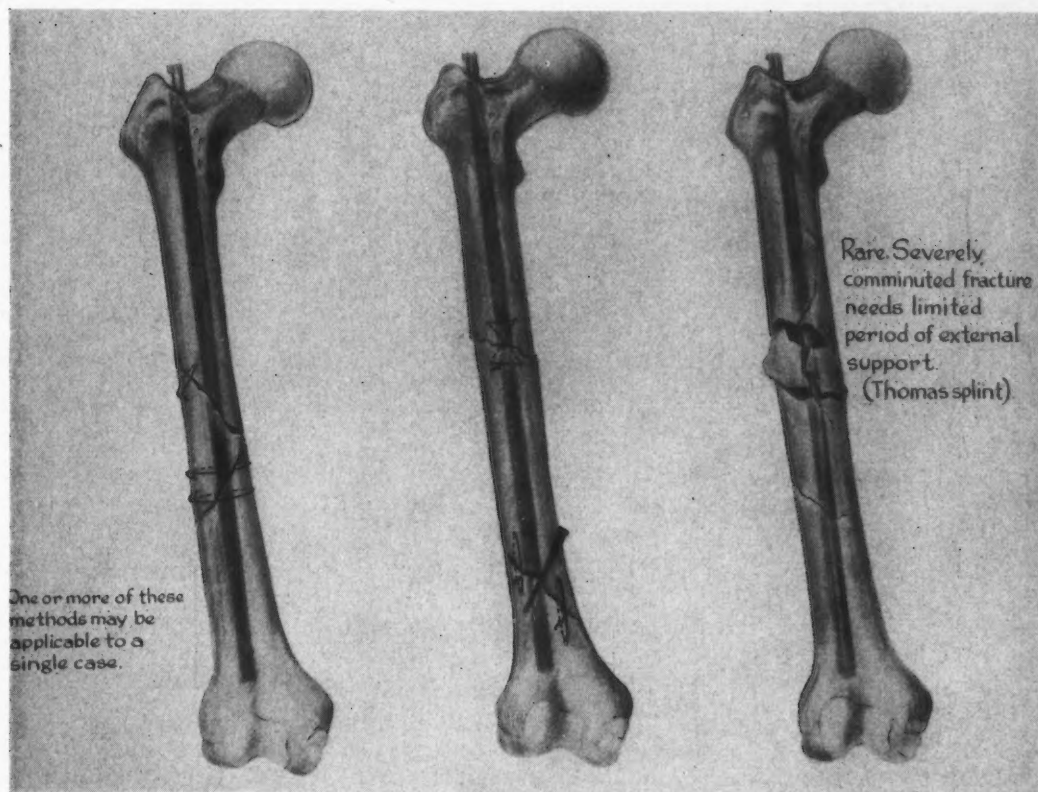


Figure 2.—Methods of supplemental fixation for use in support of comminuted fractures. Methods of supplemental fixation that prevent the beneficial effects of impacting stress should be avoided.

a review of observations and of the difficulties encountered in 35 cases of femoral nailing should be of value.

Complications in this method of treatment can be classified into three main groups—those due to general constitutional complications, to technical or operative errors, and to postoperative conditions.

General complications have played a surprisingly minor role. Embolism, which was greatly feared, did not occur in the series here reported, nor in a large series which is to be reported in a National Research Council study of this problem.<sup>2</sup> The authors believe that the open operation, with clearance of the medullary canal, probably diminishes the danger of embolism. The design of the nail or rods is also an important factor. Pelletier<sup>1</sup> studied the changes in intramedullary pressure and the amount of marrow fat displaced during the introduction of solid diamond-shaped nails as compared with these factors when the hollow clover leaf was used. It was found that the volume of fat displacement was significantly smaller with the hollow nail, that the drainage of the medullary canal was more effective, permitting free egress of fat, and that the intramedullary pressure arising during insertion of the hollow nail was definitely lessened. It is probable

that asymptomatic embolic phenomena occur frequently in cases in which intramedullary nailing is used, but they have not been observed to endanger the patient.

Among constitutional considerations is the age of the patient. Advanced age seems to be only a relative contraindication. In the present series the oldest patient was 74 and the youngest 14 years of age. There appears to be limited indication for the method in treating very young patients in whom bone growth has not yet terminated, because more conservative methods of treatment are quite effective in such cases.

#### TECHNICAL CONSIDERATIONS

It is important to make careful selection of cases with regard to the kind of fracture. Best suited to fixation by intramedullary nailing are fractures in the middle third of the bone, but the method is also readily applicable in cases of fracture near the ends of the bone if supplementary fixation is used. In fact it is the authors' belief that since the intramedullary rod serves only to keep the bone in alignment, in most cases it is advisable to provide additional support—wire loops, screws or metal bands—as a safeguard against distraction or overriding.





Figure 3.—Upper—Placement of metal measuring band used to determine preoperatively the length and gauge of intramedullary rod to be used. The band is fixed to the side of the uninjured leg. Lower—X-ray films taken from above. Comparison of holes in band with intramedullary space indicates size of rod to select.

In cases of severely comminuted fracture, the major fragments should be bound together if possible. Particularly if there are butterfly fragments, use of screws or wire loops or both (Figures 1 and 2) to tie the middle fragment to the smaller one reduces the hazard of displacement. Supplementary fixation is imperative if the fracture is within 6 cm. of the lesser trochanter or 8 cm. of the adductor tubercle. In any supplemental fixation the desirable effect of compression at the site of fracture should be preserved. Because external fixation nullifies the distinct benefits of intramedullary nailing, it should be avoided if possible, although a short period of support in a Thomas splint may be necessary in certain instances of severely comminuted fracture (Figure 2, right).

When a medullary rod is used after removal of a segment of the femur, wire loops to avoid distraction should be applied because, once the impacting force of the musculature is lost, considerable separation of the fragments may occur. (The only case of non-union in the present series was in such circumstances.) Because loops and cross screws

were not considered adequate for supplementary internal fixation in some cases in which there was a good deal of fragmentation, a modification of the Collins band was devised (Figure 1, right). Nubs were fixed to the inside of the band in staggered pattern, much as hobnails on the sole of a shoe. When the band is drawn tight, only the nubs actually rest against the bone, like piers of a bridge, holding the fragments together without occluding the blood supply.

In general, patients must be carefully prepared for the operation, as it is a procedure of some magnitude. The authors have used blood transfusions routinely, as well as antibiotics for prophylaxis.

Among technical errors, one of the most common is use of a nail of improper size. A nail which is too thick may split the shaft, or cause distraction, or even jam part way into the cavity. If the nail is too slender, fixation may be inadequate, or the nail may bend or fracture as it is being inserted. Nails which do not fit snugly migrate proximally. In all cases in the present series in which angulation of the nail occurred, the nail was 9 mm. or less in





Figure 4.—Bending due to unauthorized weight bearing. Inaccurately straightened, with healing in angulated position. Due to difficulty in placing the fulcrum in comminuted fractures, an S-shaped deformity in the rod may be produced by attempts to straighten the angulation.

diameter. This would argue strongly for the procedure of reaming the narrowed portion of the medullary cavity, which is at the junction of the middle and upper thirds, in order to use as large a nail as possible. The nail must always be placed snugly but not too tightly. If it is short, it gives inadequate fixation; if too long, it may penetrate the anterior femoral cortex or even the knee joint. Penetration in the lower part of the shaft can be avoided by using lateral x-ray films at the operating table to observe the progress of the nail during the latter stages of insertion. If the Kuntcher nail projects too far proximally, chronic irritation of the gluteal muscles occurs, leading to pain, gluteal fibrosis and bursa formation, and persistent limp.

Accurate preoperative determination of how thick and how long a nail to use is essential. This can best be done by the use of scanograms on the sound leg. For use in this procedure, the authors have designed

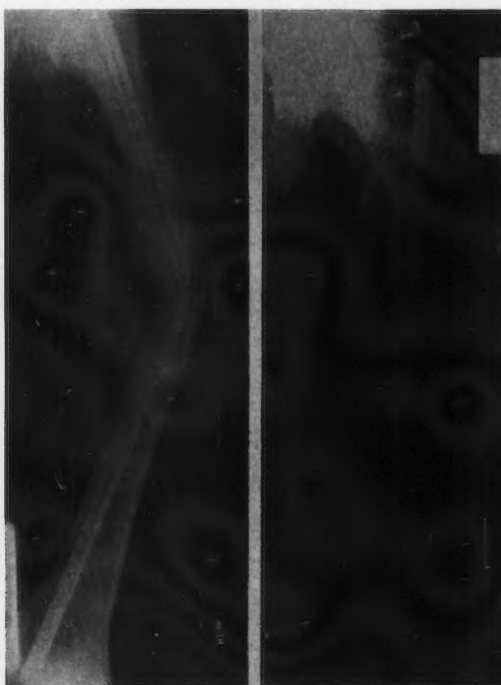


Figure 5.—Angulation caused by a fall nine weeks post-operatively, with straightening of the 9 mm. nail the same day. The nail was weakened at the site of angulation by destruction of the clover leaf architecture, and it bent again the next day with the patient in bed.

a metal measuring strip which is taped in place on the outside of the leg (Figure 3). There are a number of holes of various sizes drilled through the strip, each hole corresponding in diameter with the caliber of one of the various nails available. Thus, in an x-ray film in which both the measuring strip and the bone are viewed together, the size of nail to be used may be determined by comparing the holes in the strip with the diameter of the medullary space. As the medullary cavity and the measuring strip are the same distance from the film, there is no disproportion between them in the roentgenogram. There is no distortion lengthwise because the two films are taken with the roentgen tubes at the level of the hip and at the level of the knee.

#### POSTOPERATIVE COMPLICATIONS

Bending of the rod (Figure 4), usually caused by weight-bearing too early, was the most frequent postoperative complication in the present series. With pain absent, most patients have a feeling of security and of solidity of the femur—"pin euphoria"—which tempts them to stand and walk without support. Some patients have been so indiscreet as to drive automobiles—one even drove a municipal bus—during the first week of treatment. Hence it is necessary to warn the patient frequently against premature full weight-bearing, although partial weight-bearing is desirable because of the



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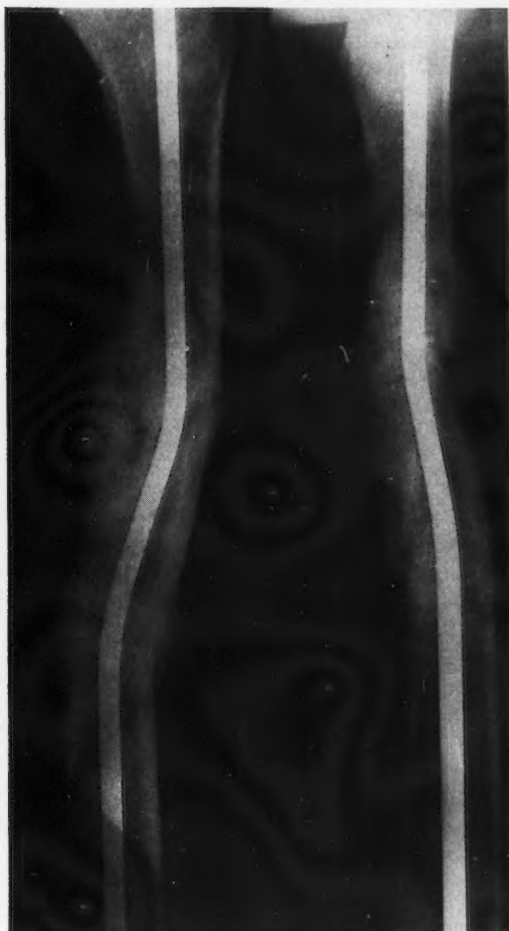


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Accurate preoperative determination of how thick and how long a nail to use is essential. This can best be done by the use of scanograms on the sound leg. For use in this procedure, the authors have designed



Figure 5.—Angulation caused by a fall nine weeks post-operatively, with straightening of the 9 mm. nail the same day. The nail was weakened at the site of angulation by destruction of the clover leaf architecture, and it bent again the next day with the patient in bed.

a metal measuring strip which is taped in place on the outside of the leg (Figure 3). There are a number of holes of various sizes drilled through the strip, each hole corresponding in diameter with the caliber of one of the various nails available. Thus, in an x-ray film in which both the measuring strip and the bone are viewed together, the size of nail to be used may be determined by comparing the holes in the strip with the diameter of the medullary space. As the medullary cavity and the measuring strip are the same distance from the film, there is no disproportion between them in the roentgenogram. There is no distortion lengthwise because the two films are taken with the roentgen tubes at the level of the hip and at the level of the knee.

#### POSTOPERATIVE COMPLICATIONS

Bending of the rod (Figure 4), usually caused by weight-bearing too early, was the most frequent postoperative complication in the present series. With pain absent, most patients have a feeling of security and of solidity of the femur—"pin euphoria"—which tempts them to stand and walk without support. Some patients have been so indiscreet as to drive automobiles—one even drove a municipal bus—during the first week of treatment. Hence it is necessary to warn the patient frequently against premature full weight-bearing, although partial weight-bearing is desirable because of the



Figure 6.—Fracture of the nail after two years of delayed union following osteotomy for femoral shortening. As supplementary internal fixation was not used, distraction occurred because of loss of muscle impacting forces. Fascial arthroplasty had been done some years before the leg-shortening operation.

stimulus of compression. Distinction should be made between normal bowing of the rod in conformance with the physiologic curve of the femur, and angulation which is clinically significant.

As soon as angulation of a nail is recognized, it should be corrected. This can be done by manipulation against a pelvic bar on a fracture table with fluoroscopic visualization or by applying a plaster spica cast, then inserting wedges at the site of the

deformity. The authors have had good results with manual correction but in certain cases in which the deformity is severe or has recurred, the problem is more serious. The following case is illustrative: The patient had bilateral femoral fractures which were pinned. A fall in which he landed on the right knee caused clinically visible angulation (Figure 5). Realignment was carried out immediately. Angulation recurred within 24 hours. To study this problem an experiment was carried out. A rod of the same diameter as that in the patient's leg was placed in a vise. With a scale, traction was then applied. Traction of about 100 pounds was needed to bend the rod as much as the rod in the leg was bent. The experimental rod was then completely straightened, and once again the angulation was reproduced by similar methods. In the second experiment only 75 pounds of traction was needed to deform the nail, and in a third only 65 pounds. It seems, therefore, that severe angulation reduces the strength of the metal at the point of angulation. With this in mind, the patient was treated not by a completely new nailing which would have been an operation of some magnitude, but by withdrawing the nail about 2 inches so that the weakened part was moved above the fracture site. This completely corrected the deformity and permitted uneventful healing.

Fracture of the rod also may occur. In one case a nail was placed following osteotomy to shorten the femur  $2\frac{1}{2}$  inches (Figure 6). This operation was done early in the present series and supplementary fixation was not used. Distraction occurred within a few days, and ultimately non-union developed. A bone-grafting operation was delayed for economic reasons. Two years after the operation the intramedullary nail broke at the level of the fibrous union when the patient was walking. The proximal fragment of the rod was withdrawn easily. To remove the distal fragment, a  $2\frac{1}{2}$ -inch slot was cut in the lateral aspect of the femur just below the fracture. Working through the slot with an electric drill and a nail set, a ridge was made on the rod so that it could be more firmly grasped and enough traction applied to pull it out.

350 Post Street.

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## Chronic Urticaria Following Penicillin Therapy

ERVIN EPSTEIN, M.D., Oakland

### SUMMARY

*Urticaria developed in six patients three to ten days after the intramuscular injection of penicillin, and the condition persisted for from three to fifteen months. The suffering, disability and expense that resulted from the injection indicates that physicians should make certain that the patient who receives penicillin has a true indication for its use.*

THERE is a tendency in present day medicine to use an overwhelming barrage of therapeutic agents to fight infections. This philosophy of combating disease with such weapons can be justified only as long as the therapeutic agent is considered to be effective and is not likely to harm the patient. Reactions to intramuscularly administered penicillin have been mild in most instances. On the other hand, severe paratherapeutic incidents such as urticaria, angioneurotic edema, arthralgia, fever, and leukocytosis have not been rare, although of short duration. Recent observation of six patients with chronic urticaria following penicillin therapy has caused further doubt regarding the relatively innocuous nature of this antibiotic. One of the cases here reported (Case 2) was presented before the San Francisco Dermatological Society, and from the discussion that followed, it was obvious that such cases are not unusual.

### REPORT OF CASES

CASE 1: The patient, 33 years of age, the wife of a dentist, received two injections of penicillin in oil and wax in February, 1948, for pneumonia. She denied previous exposure to penicillin. Ten days after the first injection, generalized urticaria developed. Despite treatment with epinephrine, Benadryl,® Pyribenzamine® and Trimeton,® the eruption had persisted with remissions and exacerbations. When first observed by the author on September 28, 1948, the patient was very depressed and several times had threatened to kill herself. She remained under treatment until October 8, 1948, receiving Thephorin® and amphetamine by mouth and auto-hemotherapy. Little benefit was obtained by this regimen.

CASE 2: A truck driver, 34 years of age, cut a finger on a truck door July 20, 1949, and was given one injection of procaine penicillin as a prophylactic measure. Ten days later severe urticaria, arthralgia, nausea, fever and leukocytosis developed, necessitating four days of hospitalization. The patient denied previous allergic disease, mycotic infections or injections of penicillin. Despite treatment with epinephrine, ephedrine, and antihistaminics parenterally and by mouth in doses up to 800 mg. per day, the urticaria and angioneurotic edema persisted. Among other therapeutic

measures employed might be mentioned intravenous injections of calcium, autohemotherapy, elimination diets, sedation, aminophylline intravenously, Hapamine® and local measures. Scratch tests with 112 materials including foods, plants, epidermal and incidental agents, were carried out, with negative reaction in all instances. The patient was depressed and at times considered the possibility of suicide.

CASE 3: A 38-year-old stevedore was cut on the knee with the dorsal fin of a frozen tuna on December 1, 1949. The same day, the patient was given an injection of procaine penicillin. Four more injections were given, the last one on December 8. On December 6, "hives" appeared on the feet, then became generalized, necessitating hospitalization. The eruption has persisted to date with varying remissions and exacerbations. Treatment was similar to that in Case 2. The patient, who was extremely depressed, had a previous and familial history of infantile eczema and asthma.

CASE 4: A 33-year-old refinery worker received a course of penicillin therapy for syphilis in 1946 without untoward reaction. In January, 1949, he was given one injection of penicillin for "bronchitis." Three days later, a generalized urticarial eruption appeared. This has persisted to date with daily fluctuations in intensity. The patient also had mild pedal dermatomycosis. Treatment consisted of epinephrine and antihistaminics as well as fungicidal therapy to the feet. The patient stated that he was very nervous and that the intensity of the eruption varied with his mental state.

CASE 5: A 48-year-old painter was referred for consultation on March 23, 1950. Two or three injections of procaine penicillin had been given five months previously in the treatment of syphilis. The patient said he had never had penicillin previously, had never had "allergic diseases" or evidence of a cutaneous mycotic infection. Ten days after the first injection, urticaria developed and seven days of hospitalization was required. The urticaria cleared for one week and then recurred. The patient continued to receive bismuth injections for the spirochetal infection. Discontinuing this medication and staying off work did not lessen the hives. The eruption persisted despite two more hospital entries and treatment with procaine intravenously, epinephrine hypodermically and intramuscularly, various antihistaminics, local applications, an elimination diet, etc.

CASE 6: A 13-year-old girl who had two wisdom teeth extracted in April, 1950, was given one injection of procaine penicillin immediately afterward. Ten days later urticaria developed and at the time of writing has persisted for three months. She was treated mainly with various antihistaminic agents. There was no history of previous penicillin therapy, "athlete's foot" or allergic disease.

### DISCUSSION

Because of the suffering, disability and expense apparently caused by penicillin, each of the six patients remarked independently that he would rather

have the infection for which the penicillin was given. In two instances, penicillin was given as prophylaxis against wound infection. In one, the antibiotic was administered for "bronchitis." Another patient received penicillin after dental extractions. In the fifth and sixth cases there was definite indication for penicillin therapy—pneumonia and syphilis. In the five cases in which the patients had not had penicillin previously, urticaria developed about ten days after the first injection. In the case in which penicillin had been given previously for the treatment of syphilis, the hives appeared three days after the first injection the second time the antibiotic was used.

Only one patient had clinical evidence of associated mycotic infection. Only one patient was known to have allergic sensitivity.

Three of the patients had severe depression. Two considered suicide but neither carried it out. The third patient was not sufficiently depressed to discuss such a possibility. The fourth and fifth patients stated that they were very "nervous." The sixth patient was only 13 years old.

It should be noted that at the time of the last observation before this report was written, all six patients still had urticaria.

447 Twenty-ninth Street.

# Prophylactic Psychotherapy Before Desexualizing Operations

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## SUMMARY

*To lessen the hazard of postoperative mental trauma, psychiatric preparation of patients with patently faulty psychic adjustment is advisable before operations entailing removal of genital organs.*

NO reputable physician would voluntarily cause a patient with latent psychosis or hidden severe psychoneurosis to become manifestly emotionally ill. Yet it is probable that most practitioners can recall well-meant actions which, in retrospect, seem to have precipitated or aggravated psychic illness. If hindsight is to be of value, it must be converted to foresight which will help in avoiding repetition of such mistakes. The following is a case in point:

## REPORT OF A CASE

The patient was a 46-year-old woman, separated from her husband, who for some years had held a responsible job as a secretary. She was observed over a period of about five years by a highly respected general practitioner. The patient complained of headaches, insomnia, nervous tension, and occasional hot flashes. Moderate hypertension was noted. A "nervous breakdown" had occurred about 20 years previously, following the failure of the patient's marriage. In discussion the patient revealed—and her relatives confirmed—that she was domineering, selfish, asocial, and critical and that she believed in living by will power.

Upon examination of the abdomen because of complaint of pain, the uterus was observed to be greatly enlarged and tender. The patient was not told oophorectomy might be necessary. At operation, endometriosis necessitated removal of the ovaries. The surgeon noted that "there was apparently some shock at the loss of the ovaries."

After the operation the patient worried continuously about insanity, complained constantly of severe headaches and leaned heavily on sedatives and analgesics containing codeine. She acted angrily toward relatives and friends and was unable to continue working. Psychiatric consultation was refused for a year despite exhaustion, despair, headaches and fear of insanity. Later, in psychiatric interviews, guilt for sexual fantasies was disclosed. The patient dated the illness from the time of the operation. She appeared to be angry rather than depressed. Persecutory delusions developed. Prolonged vis-a-vis interviews and a brief course of electroshock therapy were given. Some improvement followed.

It is common knowledge that psychiatric illnesses are more prevalent at certain periods of life, including the menopausal era. That genital operations and injuries are potentially psychologically very danger-

ous because of the castration threat, is equally well known.

In the case here reported there was much material pertaining to loss of value as a sexual object and loss of self-esteem at having been desexualized. It would be foolhardy to assert without equivocation that the psychotic reaction might have been prevented if the patient had been handled differently preoperatively. Nevertheless, the possibility remains. The perceptive physician who observed the patient over a long period was concerned about her mental health to the extent that he consulted her relatives about her prior to her manifest breakdown. It seems incongruous that this same careful physician, who knew that the patient was a societal misfit, who knew that she had had a "nervous breakdown" in the past, and who was well aware of the incidence of menopausal psychoses and the castration threat of genital operations, did not attempt to more completely prepare the patient mentally for the operation. He could have talked with her some days to some weeks before the proposed date of operation, informing her that it might be necessary to remove the ovaries. It would then have been possible for him to observe the patient's reactions to this prospect. He might also have insisted that the patient consult a psychiatrist for preoperative evaluation and possible prophylactic psychotherapy. That the operation was needed is beside the point. That the patient herself probably did not want a diagnostic interview is likewise not germane.

As problems which are brought out in the open and fully discussed usually cause less anxiety than those shrouded in mystery, it might be well for physicians who are to do potentially desexualizing operations to spend more time in the preoperative psychologic preparation of patients. It can be legitimately assumed that traumata of such operations are potentially more devastating to patients who have previously made poor personality adjustments. An abbreviated anamnesis in addition to the observation of the patient's habitus, attitudes and reactions will generally suffice to help the surgeon decide whether the patient is a psychiatric liability.

Although the author knows of no statistical studies which indicate the incidence of psychiatric illnesses precipitated by castrating operations, it is his opinion that physicians should request competent psychiatric evaluation before performing elective, destructive, genital operations on patients whose psychic adjustment is patently faulty.

2500 Ashby Avenue.



## A Simple Retentive Dressing for Fractures of the Clavicle

JOHN T. LELAND, M.D., *Mill Valley*

THE advent of Velpeau's and the army's wooden cross method of immobilization during healing of fracture of the clavicle has modified only in degree the validity of Pilcher's observation (cited by Russ in 1905) that "those methods which are efficient are intolerable and those which are tolerable are inefficient."

A new, relatively comfortable and otherwise advantageous method of support and bandaging by which the fractured ends of a clavicle are held in approximation and alignment, with the surrounding musculature relaxed, has been devised. In this method the hand on the injured side is placed in such a position—over the breast near the axilla on the affected side rather than across the breast on the opposite side—that there is neither traction nor compression nor torsion at the site of fracture.

A wide, sturdy chest belt, a short crutch, a seven-yard roll of 3-inch gauze stockinet, and a nylon-covered sponge-rubber shoulder pad are the materials used (see Figure A). Attached to the belt are six buckles—three at the front and three at the back—which are used as anchoring points for the bandage. At a point on the belt above the hip are several pouches, one above another, into any of which the stem of the crutch may be placed so that the shoulder is supported at the optimal level. Figure B illustrates the first step in the bandaging procedure—the belt in place and a strap in which a water pad is fixed, dangling from one of the anterior buckles. First the dangling strap is thrown over the shoulder but is not yet drawn tight. Then a slit is made in the stockinet four feet from the end and the patient's arm is thrust into it (Figure C). The loose end beyond the finger tips (Figure D) is thrown over the injured shoulder and drawn diagonally across the back until the elbow is in acute flexion and the hand on the injured side is drawn into position against the breast on the injured side. To maintain this position during the remainder of the bandaging procedure, the patient holds the loose end of the bandage in the hand on the opposite side. (Ultimately this end is buckled into the back of the belt.) With the coiled end of the bandage, two turns are made around the retracted arm in a rising spiral, then two turns around the chest, spiralling downward (Figure D). The crutch is then put into place (Figure E) with the stem in the proper socket in the belt, and two more turns of the bandage are made around the chest and over the stem of the crutch. Thence the bandage is spiralled down the arm and forearm (leaving the olecranon uncovered) to the wrist.

There it is reversed and spiralled upward to the elbow. From the elbow it is drawn over the spindle of the crutch (Figure F) so that the elbow is supported and the shoulder lifted. The remaining step is to unroll the rest of the stockinet, running it from the forward end of the crutch spindle, over the shoulder. At the point at which it crosses the fracture site it is slit and the sponge-rubber pad inserted in the slit. The loose end is then put through a buckle at the back of the belt and drawn snug. The water pad is placed atop the sponge and the end of the strip holding it is pulled through a rear buckle. The fracture site may be uncovered for inspection at any time by releasing ends of the bandages from the buckles (Figure G).

Stationer's paper fasteners, rather than pins or adhesive tape, are used where necessary to prevent slippage of the bandage. With the points bent, they give greater security and smoothness.

The advantages of the method are:

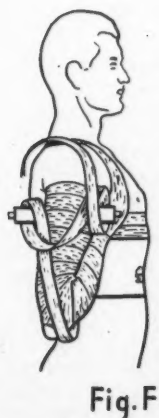
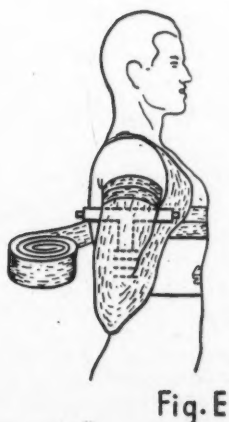
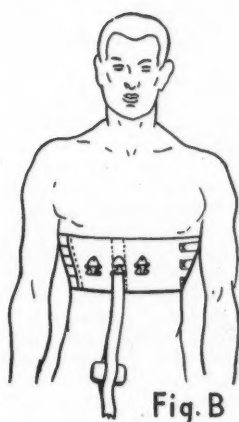
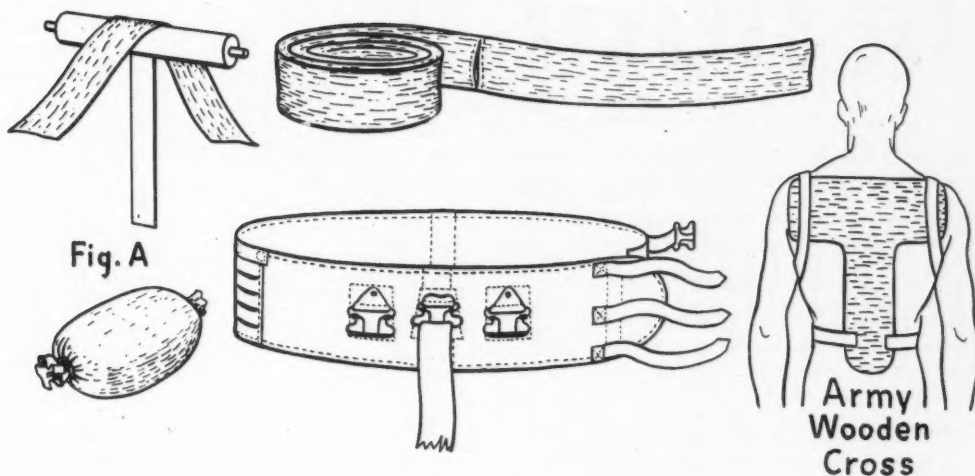
1. The deadweight of the arm and shoulder on the injured side is supported and the hand is placed in such a position that there is a minimum of strain in any direction at the site of fracture.\*
2. The bandage is light and porous rather than rigid. It causes no scalding pull on the skin beneath it. A slit may be made in the bandage over the dorsum of the hand for powdering.
3. The rest of the apparatus—the belt and crutch—does not prevent the patient from reclining comfortably.
4. Occasional inspection of the fracture site is easily accomplished.
5. The patient may move the retracted forearm enough to relieve muscular fatigue.

3 Madrona Street.

### REFERENCE

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\*This simple test is suggested to the reader: Assume that the right sternoclavicular joint is not a joint but a fracture. Press the finger tips of the left hand against the joint. Let the right shoulder sag. Then, with the shoulder still sagging, place the right hand over the left breast. Note the stress at the joint—stress which would be borne at the site of fracture if the clavicle were broken. Now move the right hand to a position on the right breast near the armpit with the palm toward the body and move the shoulder upward as it would be if there were support beneath it. Note the absence of stress at the "fracture" site.



# CASE REPORTS

- 
- ◀ Dissecting Aortic Aneurysm with Bizarre Neurologic and Vascular Aspects
  - ◀ Epidermoid Cysts of the Testis
  - ◀ Solitary Cyst of the Adrenal Gland
  - ◀ Massive Hematemesis from a Cirroid Aneurysm in a Forty-Year-Old Man
  - ◀ Lipoid Nephrosis During and After Pregnancy
  - ◀ Anserina Bursitis
- 

## Dissecting Aortic Aneurysm with Bizarre Neurologic and Vascular Aspects

SEYMOUR M. PERRY, M.D., and JOHN W. CONLEY, M.D.,

*Los Angeles*

THE clinical manifestations of dissecting aneurysm of the aorta may vary greatly in symptomatology and objective findings but it is the neurological complications which are often bizarre and difficult to interpret. They usually may be classified<sup>2</sup> as due to ischemic changes of the brain, of the spinal cord, or of the peripheral nerves.

The reported incidence of neurological complications in dissecting aortic aneurysm varies with different series—between 11 per cent and 46 per cent.<sup>1</sup> Scott and Sancetta,<sup>2</sup> in reviewing the largest series (424 cases) noted that in 89 cases, or 21 per cent, there were neurological complications such as pain, paresthesias, convulsions, periods of unconsciousness, vertigo, reflex changes, and facial weakness. Paraplegia owing to involvement of the spinal cord or peripheral nerves is common. Hemiplegia is usually attributable to extension of the dissection along the carotid arteries, with a resultant cerebrovascular accident.

In the following case the patient had simultaneous flaccid monoplegia, anesthesia, and vascular embarrassment of the same extremity.

### CASE REPORT

A 49-year-old Caucasian male entered Los Angeles County Hospital in emergency on Oct. 12, 1950. Although apparently in shock the patient gave the following history: He had been drinking heavily for the past ten days and admitted being a chronic alcoholic for a period of years. At 8 a.m. on the day of admission there was sudden onset of severe epigastric pain just beneath the tip of the xiphoid process. Shortly afterward the patient noticed numbness of both lower extremities, more on the left than the right, and the left leg became extremely weak. Sensation in the right leg improved, but the numbness in the left became progressively more severe and extensive, until the entire limb was involved.

Upon physical examination the patient was observed to be well developed, well nourished, sweating and slightly

cyanotic. He was apprehensive but cooperative. The eyes, ears, nose, and throat appeared to be normal. There was no venous distention in the neck. Except for a few basal rales the chest was clear to auscultation and percussion. No abnormality was noted in auscultation and percussion of the heart. The abdomen was slightly tense and there was questionable dullness in the flanks, but the organs were normal to palpation and no masses were felt and there was no tenderness. Peristalsis was active and of normal pitch. Pronounced erythematous, cyanotic discoloration was present over the entire left lower quadrant of the abdomen. This mottling continued posteriorly to involve the buttock and inferiorly over the whole of the left lower limb. Blood pressure readings, recorded in millimeters of mercury, were as follows: right arm, 122 systolic and 62 diastolic; left arm, 144 systolic and 66 diastolic; right leg, 174 systolic and 88 diastolic. The blood pressure was unobtainable in the left lower limb. The arterial pulsations of the right lower extremity were diminished, and were absent in the left. The left thigh and leg were warmer than the right, despite the absence of pulsations and the discoloration. In addition, there was flaccid paralysis of the entire extremity. The left lower abdominal reflex was diminished and deep tendon and superficial reflexes of the affected limb were absent.

In fluoroscopic examination of the chest a widened aorta and a minor degree of cardiac enlargement were observed. An electrocardiogram was not abnormal. The spinal fluid was clear and colorless, and normal dynamically. Reaction to a Pandy test was negative. There were 30 lymphocytes per cu. mm. of fluid. The hemoglobin content of the blood was 15.5 per 100 cc. Leukocytes numbered 14,000, 80 per cent polymorphonuclear cells. The blood amylase was normal.

Oxygen, sedation, and infusions of whole blood were given but the condition of the patient remained unchanged and 13 hours after admission he suddenly became cyanotic and acutely dyspneic. The veins in the neck became distended, the patient sat upright in bed, mumbled a few words, and fell back dead.

### AUTOPSY

*Anatomic diagnoses:* Dissecting aneurysm of the aorta, with rupture into the pericardium; cardiac tamponade, due to hemopericardium; cardiac hypertrophy; pulmonary edema; fatty liver; bicuspid aortic valve; esophageal diverticulum.

From the Department of Internal Medicine, University of Southern California School of Medicine, Los Angeles County Hospital.



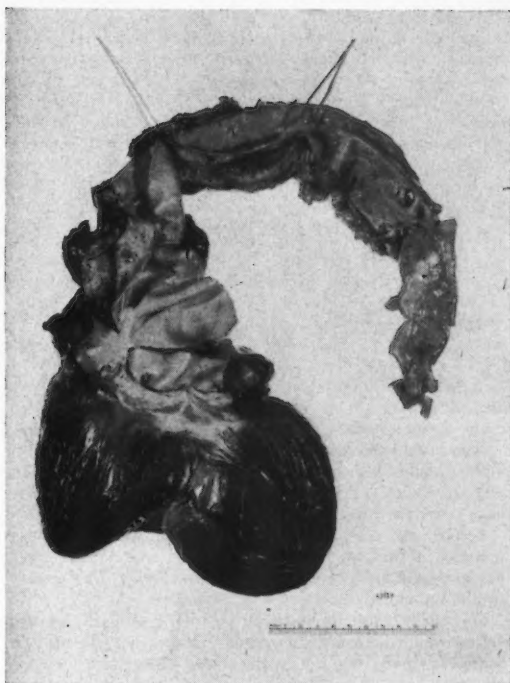


Figure 1.—Dissected heart and aorta with tear just distal to aortic valves.

**Cardiovascular system:** The pericardial sac was smooth and glistening, containing a large amount of dark blood. As it was opened the blood spilled, so that no measure was obtained. The heart weighed 540 gm. The chambers did not appear dilated. Except for a bicuspid aortic valve, the valves appeared normal. A transverse tear, involving all but 1 cm. of the aorta, was present 2 cm. distal to the aortic valve (Figure 1). In the serosa and enclosing this tear was a large hematoma. The tear had dissected in the media of the artery the entire length of the aorta. On the right side this dissection extended 1 cm. distally in the iliac artery. On the left side, however, the dissection ended 1 cm. above the left iliac artery. The latter vessel appeared normal. The dissection also involved 1 to 2 cm. of each of the great vessels of the neck, including the innominate, the left common carotid, and the left subclavian arteries. The arch of the aorta was buried in a large mass of dark clotted blood which apparently had come from the dissection in the main pulmonary arteries, without rupture into their lumina. The myocardium on cut surface was coarser than is normal, but there were no areas of new or old infarction or scarring. The left ventricular wall was 17 mm. thick and the right 3 mm.

**Brain and central nervous system:** There were no gross lesions in the brain and spinal cord or in the left lumbosacral plexus.

No significant lesions were noted in the respiratory, digestive or genito-urinary systems or in the spleen.

**Microscopic:** The medium of the aorta was split by gross hemorrhage and there were scattered collections of polymorphonuclear cells in the adventitia. No significant lesion was noted in the myocardium, except for moderate hypertrophy of the muscle fibers. The lungs were congested, the alveoli being partially filled with edematous fluid. There

were scattered pigment-filled macrophages. The spleen and kidneys were mildly congested. There was moderate fatty vacuolization of the liver parenchymal cells, as well as pronounced congestion of the central vein and atrophy of the surrounding cells. The vessels in the interstitial spaces of the pancreas were engorged.

#### DISCUSSION

This case was considered to be of interest for several reasons. Neurovascular alterations were observed only in the left lower extremity, despite the dissection of the aneurysm the length of the aorta and along the major vessels of the upper extremities. Of equal interest was the sparing of the abdominal viscera and spinal cord. The monoplegia and anesthesia are best explained on the basis of ischemia of the left lumbosacral plexus, but pain was not present in the limb, probably because the blood supply was so seriously impaired as to interrupt transmission of any sensory impulses. At autopsy the plexus was dissected and no gross lesions were observed. Why the major findings appeared at such a distance from the origin of the aneurysmal dissection is perplexing and difficult to account for on the basis of pathological findings.

#### SUMMARY

A case of dissecting aortic aneurysm with several bizarre neurovascular findings appearing concurrently in the same extremity is presented.

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### Epidermoid Cysts of the Testis

#### A Report of Three Cases

KENNETH E. MOOSLIN, M.D., and JOHN W. SCHULTE, M.D.,  
San Francisco

THREE cases of testicular tumor containing epidermoid cysts are herein reported. In two of them the lesion was a pure epidermoid cyst—sometimes called unidermal dermoid cyst.<sup>1,2</sup> Only three such cases have been reported previously. In the third case the lesion was a teratoma containing an epidermoid cyst, but it also was unusual in that the patient was a seven-month-old infant.

#### CASE REPORTS

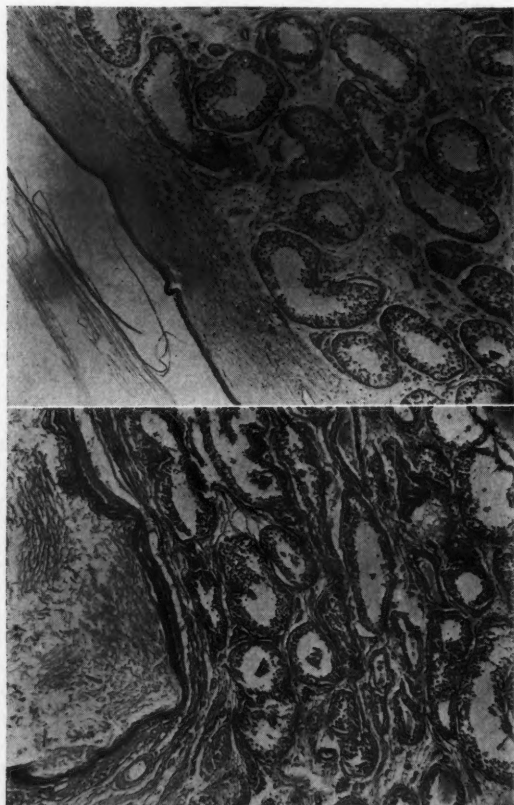
**CASE 1.** A 55-year-old painter entered the urologic service of the Veterans Administration Hospital, San Francisco, Aug. 1, 1949, with complaint of a swollen left testicle. The patient first had difficulty with the left testicle 28 years previously when tenderness and swelling in that location for approximately one month were noted. In the two years preceding admission to hospital the left testicle had enlarged gradually but without pain except for a mild ache after heavy lifting. Five days before entry, aspiration of a presumed hydrocele was attempted but was unsuccessful and operative treatment was advised.

From the Division of Surgery, Subdivision of Urology, of the University of California School of Medicine and the Veterans Administration Hospital, San Francisco.

A cystic mass about 7 cm. x 4 cm. was palpated in the left scrotal sac. The mass was translucent and a shadow of the testicle was observed postero-inferiorly. Left hydrocele was diagnosed preoperatively. Results of blood and urine examinations were normal, and no abnormality was observed in x-ray films of the chest.

With the patient under spinal anesthesia, a longitudinal incision was made on the left side of the scrotum, starting at the inferior aspect. The tunica vaginalis was exposed and incised. It contained approximately 30 ml. of dark yellow clear fluid. In further exploration the left testis was noted to be enlarged and cystic with only a small hydrocele sac around it. A rubber-shod Allis clamp was placed around the spermatic cord and an incision made into the testis. There was an external rim of what appeared to be normal testicular tissue. Upon deeper incision into the testis, there was a copious outpouring of white sebaceous material. The impression was that it was from a benign tumor of the testis, probably an epidermoid cyst. Orchiectomy was then carried out, with care taken to keep the testis and the drainage from it isolated from the rest of the wound. The spermatic cord distal to the external inguinal ring was excised and the wound closed.

**Pathologic report:** The center of the testis was replaced by a 4 cm. x 5 cm. cystic structure containing white grumous material. The wall of the cyst was about 3 mm. in thickness



Figures 1 (above) and 2 (below)—Cases 1 and 2, respectively. Epidermoid cyst of the testis. In each, the cyst is filled with keratinized debris; is lined by stratified squamous epithelium, and the cyst wall is made up of dense connective tissue. The adjacent testicular tissue is well preserved and is lined by normal spermatogenic epithelium.

and was surrounded by testicular tissue. In microscopic examination the cyst wall was observed to be made up of a lining of stratified squamous epithelium with a heavy keratin layer, much of which was desquamated into the lumen. This epithelium was generally thin, 2 to 3 cells in depth, and regular without the development of rete pegs. The wall itself was made up of moderately dense connective tissue. Deep to the cyst wall normal testicular tissue was present. Diagnosis: Epidermoid cyst of the testis.

The postoperative course was uneventful and the patient was discharged on the seventh postoperative day.

**CASE 2:** A 21-year-old medical student entered the urologic service at the University of California Medical Center April 6, 1948, with complaint of gradual enlargement of the left testicle. A painless lump of the left testis was first noted by the patient on April 3, 1948. There had been no previous symptoms referable to the left testicle except for an episode of pain lasting several hours which occurred while the patient was on a pack trip the previous year. The pain subsided without treatment and was not accompanied by swelling or other manifestations of disease. The only pertinent past history was successful plastic repair of first degree hypospadias nine years previously.

A hard, painless, heavy mass 1 or 2 cm. in diameter was palpated within the testicle. Results of routine blood and urine examinations were within normal limits. The gonadotropin content of the urine was normal.

On April 7, left orchiectomy was done. A hard, whitish-yellow tumor occupied the central portion of the testis. The tunica vaginalis was not involved and there were no nodes along the cord. In cross-section the hard, circumscribed mass had a laminated, onion-like appearance.

**Pathologic report:** The tumor was composed of layers of keratin and necrotic squamous cells; only the outlines could be seen. The wall of the tumor consisted of flattened squamous cells from which fresh keratin was being desquamated. The seminiferous tubules and interstitial tissue were not unusual. Diagnosis: Epidermoid cyst of the testis.

**CASE 3:** A 7½-month-old infant was admitted to the urologic service of Franklin Hospital July 23, 1943. About two months prior to entry the parents noticed that the infant's right testicle was larger than the left and it enlarged further until it was about five times the original size. The baby paid no attention to it until just prior to admission, when he began reaching for the scrotum as though in pain. The baby had had a normal birth and was normal in growth and development.

The penis and the scrotal contents on the left were normal in appearance and to palpation. A mass distended the right side of the scrotum. The right testis could not be palpated and it was thought to be inside the mass. The preoperative diagnosis was right hydrocele.

A 5 to 6 cm. incision was made parallel to the inguinal canal and into the base of the scrotum. The tunica vaginalis and contents were found to be irregular in shape and hard. Upon incision of the tunica vaginalis a small amount of fluid was noted and there was a large cystic mass in place of the testis. The epididymis, which was normal in appearance, was attached at the upper pole. The mass was clinically diagnosed as a tumor of embryonal type and the testis was excised at its junction with the epididymis, which was left for prosthetic purposes.

**Pathologic report:** The specimen consisted of an irregular piece of tissue measuring 4.5 cm. x 3 cm. There was one large cavity formed by a fibrous tissue wall, lined with yellow debris. Throughout the rest of the mass were numerous little cysts lined with mesothelium. Along the wall of one

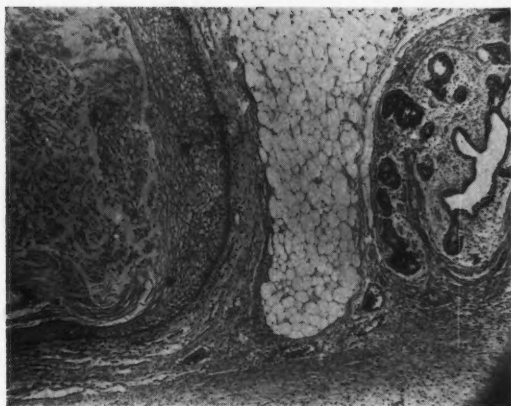


Figure 3.—Teratoma of the testis. In one area is an epidermoid cyst containing desquamated epithelial cells and keratinized debris. Present also in this section is a group of primitive glandular structures.

## Solitary Cyst of the Adrenal Gland

### Report of a Case

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LYNN SOLOMON, M.D., *Los Angeles*

**S**OLITARY cyst of the adrenal gland is a rare disease. In a survey of the literature since 1907 reports of only five cases falling into this category were found.

M'Cosh,<sup>1</sup> in 1907, reported the case of a 45-year-old female in whom a mass could be palpated high in the left hypochondrium. At operation nine liters of greenish-yellow fluid was aspirated and the cyst was removed. Microscopically, the cyst wall was found to contain adrenal tissue.

Doran,<sup>2</sup> in 1908, described in the left adrenal gland a cyst four inches in diameter, containing blood-tinged fluid. The presence of blood was attributed to secondary hemorrhage from the cyst wall.

Hartwell,<sup>3</sup> in 1909, wrote of the surgical removal of a congenital cyst of the left adrenal gland the size of an "adult head." In this case also the fluid was blood-tinged and considered to be the result of secondary hemorrhage.

Ballance,<sup>4</sup> in 1923, reported observing a right adrenal cyst 9 x 6 inches in size during the course of gastroenterostomy. The cyst was removed at a secondary operation and was found to contain amber fluid.

Levison,<sup>5</sup> in 1933, reported a case in which bilateral upper abdominal masses were noted on x-ray examination. The mass on the left was the size of a "grapefruit" and that on the right the size of a "mandarin." At operation, these proved to be bilateral, solitary adrenal cysts, the larger of which was removed. This is the first recorded case in which x-ray examination suggested the diagnosis of this condition preoperatively.

### REPORT OF A CASE

A white, married, 68-year-old businessman entered The California Hospital, Los Angeles, on April 3, 1949, for operation. During the course of a general medical checkup by an internist in August 1948, an x-ray film of the abdomen showed a small calcification in the region of the left kidney. In retrograde pyelograms (Figure 1) a circumscribed mass, about 10 x 15 cm., lying immediately below the left leaf of

of these cysts was a piece of very hard material resembling bone. No hair or gross collection of sebaceous material was observed. In microscopic examination, tissue from all three embryological layers was observed. There were two cystic spaces lined by stratified squamous epithelium and filled with keratinized epithelium of the same type, a small island of acini and ducts resembling a lobule of breast tissue, and small pieces of cartilage, one of which lay just outside a tubular structure lined by respiratory epithelium and containing, in its wall, mucous glands. Two small pieces of bone were present. One cystic space was lined by tall columnar epithelium in which there were goblet cells. This, together with the lamina propria, resembled tissue from the intestinal tract. Diagnosis: Teratoma of the testis.

Postoperatively the patient did well and was discharged on the fourth postoperative day. No x-ray therapy was given and, to date, there has been no recurrence.

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the diaphragm in a posterior position, was noted. It displaced the left kidney downward about 7 cm. The small area of calcification appeared to be in the region of the mass. Except for the pronounced displacement, the left kidney was normal. The mass and the kidney seemed to be quite separate (Arrow, Figure 1). Complete gastrointestinal x-ray studies were carried out. There was a constant filling defect in the stomach caused by an extrinsic mass, and the splenic flexure was displaced anteriorly. Eight months later, in March 1949, x-ray studies were repeated at the Scripps Metabolic Clinic, La Jolla, California, and no change in the size of the mass was noted.

On hospital entry, the patient complained of constant, low-grade, epigastric pain and flatulence for the preceding two years. The family history was non-contributory. The patient had had malaria in childhood, and in 1945 was treated for undulant fever. The surgical history included appendectomy in 1929, a "Young punch operation" in 1936, removal of a pharyngoesophageal diverticulum in 1937, and a transurethral prostatic resection in 1948.

The blood pressure varied from 122 mm. of mercury systolic and 80 mm. diastolic to 158 mm. and 90 mm. respectively. The blood cell count was normal, as were the erythrocyte sedimentation rate, the serum cholesterol content and the result of a phenolsulfonphthalein test. No abnormality was noted in an electrocardiogram. The urine was normal. Results of Kahn and Mazzini tests were negative for syphilis. The basal metabolic rate was minus 16.

A preoperative diagnosis of left subphrenic, retroperitoneal mass, either an adrenal tumor or a dermoid cyst, was made. A long, transverse incision was made in the left flank, dividing the left rectus muscle and providing a combined intraperitoneal and extraperitoneal approach. The spleen and splenic flexure of the colon were observed to be displaced anteriorly and the left kidney downward. A fairly thin-walled cyst 10 cm. in diameter was noted to arise from the superior half of the left adrenal gland, the adrenal cortex extending into the cyst wall where it gradually disappeared. A 1-cm. area of calcification was located in the anterior wall of the cyst near the adrenal attachment. Several spicules of calcium were noted elsewhere in the wall. The cyst with approximately half the adrenal gland was removed by applying counter pressure on it from within the abdomen while carrying out the dissection through the extraperitoneal



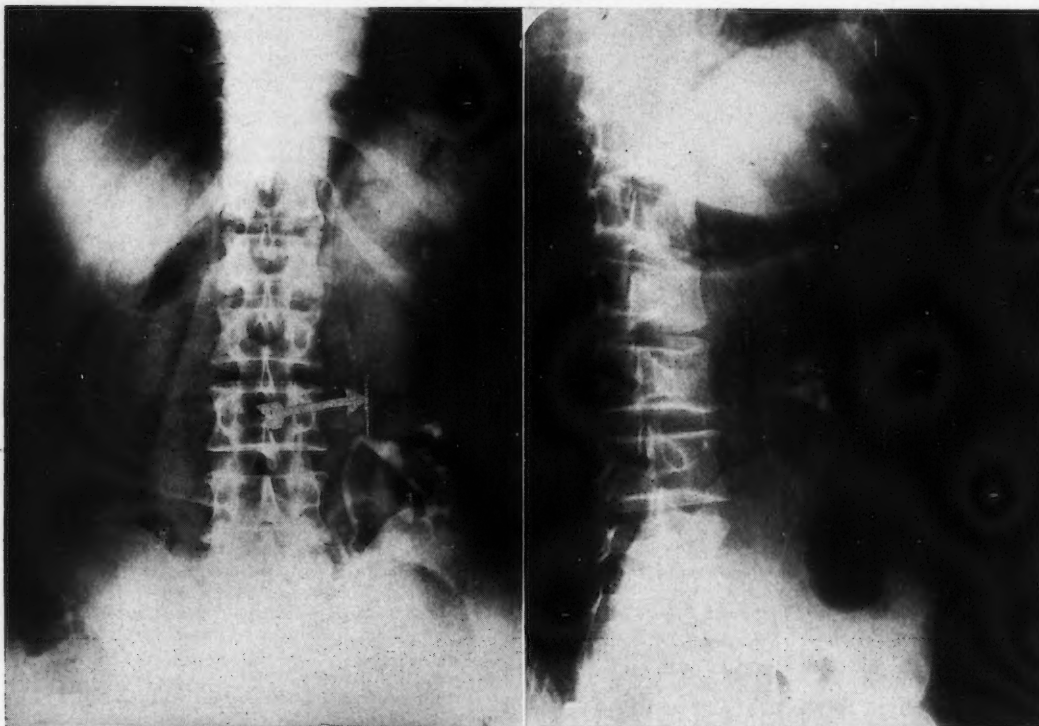


Figure 1.—*Left*—Anterior-posterior left retrograde pyelogram. Arrow indicates cleavage plane between kidney and cyst. Notice area of calcification above 12th rib. *Right*—Lateral view of left retrograde pyelogram.

portion of the incision. Perforation occurred near the end of the procedure and clear gelatinous fluid was aspirated.

The pathologist considered the specimen to be a benign cyst of the adrenal gland. Fluid smears and guinea pig inoculations were negative for tuberculosis.

The postoperative course was uneventful except for moderate radiculitis of the tenth intercostal nerve. The patient was discharged on the 16th postoperative day.

Nine months after the operation the patient stated he had "never felt so well" and the flatulence and epigastric distress had almost disappeared. The blood pressure was 140 mm. of mercury systolic and 80 mm. diastolic.

#### DISCUSSION

The kind of cyst reported in the present case is not to be confused with multilocular adrenal cysts of lymphangiomatous origin,<sup>9</sup> cysts resulting from organization and liquefaction of clot following extensive primary hemorrhage into the adrenal gland,<sup>6</sup> or cysts due to degeneration of benign and malignant tumors of the adrenal gland.<sup>3</sup> Although several such cases have been recorded, they are not common.

The cortical portion of the adrenal gland, of mesothelial origin, arises very near the germinal epithelium and mesonephros. With the descent of the gonads, portions of this cortical tissue may be pulled into positions as distant as the scrotum and broad ligament. So it is not difficult to postulate the association of adrenocortical tissue with tumors of varied origins in any of these distant locations. It is the opinion of some investigators that cysts in the retroperitoneal area associated with the adrenocortical elements may be derived either from mesonephric remnants or from the adrenal tissue itself. To determine definitely the origin of a particular cyst in this area may be a most difficult problem.

#### SYMPTOMS

Solitary adrenal cysts may grow to large size before giving rise to any symptoms. The patient may complain of a sense of fullness or of mild dyspepsia. Should a secondary hemorrhage occur into the cyst, it would enlarge rapidly and pain would then become a major symptom.

#### DIAGNOSIS

Adrenal cysts must be differentiated from other masses occurring in similar locations, including solid adrenal tumors, renal cysts or tumors, dermoid cysts, echinococcal cysts, hydatid cyst of the left lobe of the liver, pancreatic cysts, lipomata, and retroperitoneal lipomyxosarcomata.

The high position of the mass makes palpation of it virtually impossible. Downward displacement of the kidney as observed by pyelography will tend to rule out renal tumors, especially if tumor and kidney are demonstrably separate (Figure 1). It would be extremely unusual for a pancreatic cyst to present laterally and high under the diaphragm and to displace the kidney downward, either on the right or left side. Nor do cysts of the spleen and liver displace the kidney downward. Also, in the presence of such lesions, the lateral x-ray film will disclose an adrenal mass to be in the same plane as the kidney, indicating a retroperitoneal lesion. If the lesion is an echinococcal cyst, there may be x-ray evidence of calcification in the wall, and the reaction to skin tests may be positive for the organism. Solid adrenal tumors may manifest themselves clinically by changes in sexual characteristics or by episodes of hypertension (pheochromocytoma). Inasmuch as a lipoma or dermoid cyst cannot be excluded, these lesions should be borne in mind as possibilities at operation.

## SUMMARY

A case of solitary cyst of the left adrenal gland is reported and five similar cases recorded in the literature are briefly described. The differential diagnosis is discussed. In the case reported, removal of the tumor was greatly facilitated by a long transverse incision and a combined intraperitoneal and extraperitoneal approach.

405 North Bedford Drive.

## ADDENDUM

A case similar to the one here reported was reported by M. X. Anderson and co-workers in *Radiology*, 54:236-241, Feb. 1950.

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## Massive Hematemesis from a Cirroid Aneurysm in a Forty-Year-Old Man

### Report of a Fatal Case

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CIRROID aneurysm of one of the branches of the gastric arteries is rare, and may be either arteriosclerotic or congenital. Recently, Donaldson and Hamlin<sup>1</sup> reported three cases and reviewed the literature on abdominal aneurysms. The three patients were men over 55 years of age, and in each case the aneurysm was of the cirroid arteriosclerotic type. Two of the patients were operated upon; one survived. The others died of intraluminal gastric bleeding of massive degree.

The principal points of interest in the case reported here are that the patient was relatively young and there was no arteriosclerosis. Presumably the aneurysm was congenital. In repeated roentgenologic examination of the stomach and an exploratory operation the cause of bleeding was not determined.

## CASE REPORT

A 40-year-old business man was brought to the emergency ward of the hospital by relatives, because of painless vomiting of blood for six hours. The first bout of massive hematemesis had occurred six years previously, and the patient was said to have responded to conservative measures and transfusions. In a follow-up roentgen study of the gastrointestinal tract, it was reported, no abnormality was observed. The patient then remained well until, five months before the present episode, massive hematemesis again occurred. The patient was reported to have responded well to transfusions of blood. In two roentgen studies of the upper gastrointestinal tract at that time, no evidence of lesion was observed. The free hydrochloric acid value of the stomach contents was 30 degrees and the value for total acid was 50 degrees. Result of a Kahn test was negative for syphilis. Three months before the patient was admitted to this hospital, an exploratory operation was done in another city but no abnormality was observed. The patient then again felt well. Results of liver function tests (bromsulfalein, cephalin flocculation, thymol turbidity and prothrombin time) which were carried out in still another city two weeks before admission, were normal. The patient said that he did not have dyspepsia and did not ingest alcohol. Upon physical examination at the time of admission the patient was noted to be well-nourished, appearing to be about the stated age, but with ashen pallor. The skin was cold and clammy. The

sensorium was clear. The pulse could not be palpated and the blood pressure was not obtainable. Respirations were 20 per minute, and the oral temperature was 96° F. No abnormality was noted in gentle palpation of the abdomen.

As the patient was obviously in shock from severe hemorrhage, no laboratory work was done. Plasma was infused immediately, and 15.0 mg. of morphine and 0.9 mg. of atropine were given. Oxygen was given continuously and whole blood transfusion was started one hour later. At intervals of one to two hours thereafter the patient vomited massive quantities of bright red blood (four times), each emesis overflowing a wash basin. The patient did not recover from shock and death occurred nine hours after admission. During the nine-hour period 4,500 cc. of whole blood, 1,000 cc. of plasma, and 1,000 cc. of 5 per cent glucose in saline were given.

At autopsy the stomach and entire small bowel were observed to be enormously distended with blood. Except for pallor, all organs were normal in appearance save for the lesion described below.

## PATHOLOGIC REPORT

The esophagus was negative for evidence of ulcer or varices. The stomach was large and atonic and the mucous membrane atrophic. About 5 cm. from the esophageal hiatus on the posterior wall near the greater curvature side there was a 4 mm. ulcerated lesion, the margins of which were elevated 2 to 3 mm. Slight hemorrhagic discoloration was noted in the lesion and there was a gaping defect through the mucous membrane about 4 mm. in depth. This segment



Figure 1.—Low-power photomicrograph showing the dilated, tortuous submucosal artery with the area of erosion and rupture.



Figure 2.—Gross specimen showing the elevated 4-mm. defect in the gastric mucosa.

of the stomach wall was cut out and blocked for serial section. In cross-sections through the wall an underlying vessel about 4 mm. in diameter and lying very close to the margin of the ulcer was noted. No evidence of lesion was observed in macroscopic examination of the pylorus, duodenum and pancreas.

In microscopic examination of sections of the gastric lesion a small area of peptic erosion of the mucosa was observed. There was a dilated and tortuous artery in the submucosa of this region, and one loop of the vessel was prolapsed through the eroded zone, filling the mucosal defect. Weakened by peptic digestion, the wall of the artery was distended and ruptured. The cross-sectional contour of the vessel was that of a funnel with the wide mouth pointed toward the gastric lumen. There was practically no inflammation of the stomach wall beyond the small zone of acute erosion. No significant lesions were observed in sections of the other organs.

#### COMMENT

Other causes of massive hematemesis such as peptic ulcer, esophageal varices, gastritis, and carcinoma, have been adequately covered elsewhere.<sup>5</sup> During the final episode in this case, the results of studies previously carried out were not available. The presumptive diagnosis was bleeding esophageal varices.

Discussion of therapy is beyond the scope of this report. However, it might be pointed out that had blind subtotal resection, as advocated by some investigators,<sup>2,4</sup> been carried out in this case, the lesion might still have been missed. Total gastrectomy done between bleeding episodes would have been necessary, unless reduction of acid secretion alone would have prevented rupture.

Jankelson and Milner<sup>3</sup> recently reported a follow-up study

on 27 patients who had massive gastrointestinal bleeding of unknown origin. A correct clinical diagnosis was eventually made in nine cases, and in two others the source of bleeding was observed in exploratory operation. In 16 cases the cause of the hemorrhages was never discovered—in three cases despite a total of six exploratory laparotomies.

#### SUMMARY

A case of massive hematemesis in a 40-year-old man who was observed during the third (and lethal) hemorrhage in six years is reported. At autopsy, peptic erosion of a non-arteriosclerotic cirroid aneurysm of the stomach was observed microscopically.

390 Pacific Avenue.

#### ACKNOWLEDGMENT

The author is indebted to Dr. John W. Budd for advice on the photomicrograph, and to Dr. A. M. Wolfe for the photograph of the gross specimen.

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### Lipoid Nephrosis During and After Pregnancy

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**L**IPID nephrosis is a rare complication of pregnancy. The following case history suggests such a diagnosis:

#### REPORT OF A CASE

A housewife, 26 years of age, was admitted to the medical service of Stanford University Hospital on May 28, 1947, with generalized edema of approximately three weeks' duration. She was six months pregnant. There was no history of preceding infection or illness and none of previous medication. The patient had had three earlier normal pregnancies, and her past health had been excellent.

Upon physical examination, pronounced generalized edema of the face, abdominal wall and extremities was noted. Both pleural cavities contained fluid, and ascites was present. The temperature and the pulse rate were normal. The systolic blood pressure was 110 mm. of mercury and the diastolic pressure 70 mm. Hemoglobin content of the blood was 11 gm. per 100 cc., plasma proteins 5.1 gm. per 100 cc. of blood, and the cholesterol level 1,000 mg. per 100 cc. of blood. The blood sedimentation rate was accelerated. The most significant observations in repeated examinations of the urine are summarized in Table 1. Urinary sediment was normal throughout the period of observation.

The patient was placed on a diet containing 2,500 calories and less than 3 gm. of sodium chloride. The protein content of the diet was 70 gm. From June 5 through June 16 infusions of 50 gm. of albumin, given in 200 cc. of water, with an added 200 cc. of 5 per cent glucose in water, were given daily.\* This infusion was given over a period of three

\*The albumin was furnished by the American Red Cross.



hours and there were no reactions. Diuresis was prompt; there was a decline in body weight from 69 to 57 kilograms and the edema cleared.

The patient was discharged and during the following month was given albumin at four- to five-day intervals, but there was a gradual increase in edema and in body weight and she was readmitted to the hospital on July 29, at term, with pronounced edema and body weight of 69 kilograms. A normal child was delivered July 30. There was no recession of the edema, and between Aug. 6 and Aug. 20, the date of discharge from the hospital, the patient received daily infusions of albumin, with excellent diuresis again resulting and a drop in body weight from 65 to 54 kilograms.

TABLE 1.—Twenty-four Hour Urine Excretion Study†

Date	24 Hr. Urine Volume (cc.)	Specific Gravity	Protein, gm. per 24 hr.	Chlorides (NaCl), gm. per 24 hr.
May 30	1,565	1.020	8.8	9.08
June 5	684	1.010	6.0	0.96
June 9	3,480	1.010	27.3	14.62
June 13	2,800	1.010	35.2	5.88
June 17	2,350	1.011	30.4	5.88
June 20	1,780	1.015	18.4	1.34
June 24	3,490	1.012	42.8	1.57
Aug. 7	4,000	1.011	43.8	15.5
Aug. 10	3,560	1.010	51.1	16.4
Aug. 17	3,700	1.012	40.0	0.54

†Dr. David Rytand of the department of medicine of the Stanford University School of Medicine supplied the data.

On Oct. 1, 1947, the patient was admitted to Providence Hospital, Oakland. Anasarca was again present and the body weight was 65 kilograms. There were no symptoms other than mild dyspnea, attributed to mild bilateral pleural effusion, and moderate ascites. The temperature was 37°C., the pulse rate 72, the systolic blood pressure 114 mm. of mercury and the diastolic pressure 76 mm.

The hemoglobin content of the blood was 10.6 gm. per 100 cc. Leukocytes numbered 9,500 and the cell differential was within normal limits. The specific gravity of the urine was 1.020, the reaction alkaline. The albumin content was 0.62 per cent by weight. Sugar was absent. In examination of the urinary sediment a few granular casts, erythrocytes and leukocytes were observed. The blood sedimentation rate was 18 mm. in nine minutes (Linzenmeier). The plasma protein content was 4.6 gm. per 100 cc. and the urea nitrogen content of the blood was 35 mg. per 100 cc.

The patient was placed on a diet low in sodium, containing 2,000 calories and 100 grams of protein, and was given ammonium chloride, 2 gm. by mouth three times daily. No attempt was made to restrict fluid intake. On October 3, 4, 6, and 7 the patient received 2 cc. of Mercuhydrin® by intramuscular injection. Diuresis was prompt, with a body weight decreasing 13 kilograms in five days. The patient was discharged from the hospital October 8, and from then until June 1950, when she moved to another city, she was observed at frequent intervals. During this period the low sodium diet was fairly well followed. Ammonium chloride and Mercuhydrin at weekly or bi-weekly intervals were required to control edema which tended to recur periodically. Iron, vitamin B complex, and desiccated thyroid were given by mouth.

In June 1948 the urine was found to be negative for albumin, and the blood sedimentation rate and the hemoglobin content had returned to normal limits. The patient was returned to a diet containing a liberal amount of salt and got along well for about five months. Then, following an

infection of the upper respiratory tract, symptoms typical of nephrosis again developed. A prescribed diet, acidification, and mercurial diuretics were again started, with a less rapid but gradual improvement. One year later a similar episode occurred following a gastrointestinal disturbance. Protein hydrolysates were added to the diet and this time Mercuhydrin injections were increased to 4 cc. bi-weekly before satisfactory diuresis occurred. This larger dosage was continued for several weeks without evidence of toxicity. Improvement again followed. No treatment was given after December 1949, and when last observed on Feb. 2, 1951, the patient felt and looked well. The hemoglobin content of the blood was 12 gm. per 100 cc. and the serum protein level was 6.85 gm. per 100 cc. of blood. There was no albumin in the urine and the sediment was normal.

#### COMMENT

The patient was initially considered to have toxemia of pregnancy, and it was thought that the symptoms of nephrosis would clear following termination of pregnancy. This did not occur. Infusion of albumin was followed in each instance by satisfactory diuresis, but little if any influence on the level of serum proteins was noted. Albumin recovered in the urine in any given period corresponded roughly to that administered. Salt depletion, as measured by sodium chloride excretion in the urine, corresponded in general to water loss, and tended to be reduced as edema disappeared. Diuresis and reduction of edema were as well accomplished by the administration of acidifying substances and mercurial diuretics as by the administration of albumin. No toxic reactions were noted.

230 Grand Avenue.

### Anserina Bursitis

#### Report of a Case

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**A**NSERINA bursitis is an uncommon entity in medical literature. Le Fort and Albert reported five cases, Le Bourge three, and Zodek one. Moschcowitz mentioned reports of 20 to 25 cases. Meyerding and Chapman have reported 14 cases from the Mayo Clinic. Because of the rarity of the disease, it is not often that an accurate pre-operative diagnosis is made. The usual diagnosis is soft tissue tumor or cystic mass on the medial aspect of the knee. Oftentimes the mass is considered to be a malignant tumor because it may rapidly increase in size.

The anserina bursa is located on the inner aspect of the knee between the lower portion of the tibial collateral ligament and the tendons and insertions of the sartorius, gracilis and semitendinous muscles (Figure 1). These tendons insert by means of a fan-shaped aponeurosis (pes anserina) on the proximal portion of the medial surface of the tibia, and beneath this aponeurosis lies the anserina bursa, which is 3 to 6 cm. in length and 4 cm. in width.

The typical patient with anserina bursitis is a middle-aged male laborer with complaint of a swelling or tumor which has been increasing in size and is located on the medial aspect of the knee. Associated with this swelling is aching or burning pain which is made worse by motion.

On examination, a mass firmly attached to the lower medial side of the knee will be observed. It may feel quite solid when the knee is extended; but when the knee is flexed, relieving the tension on the ligaments, the mass will often become fluctuant. The swelling itself in most cases is not tender, and there is no stiffness of the knee joint although the knee may not be fully extended because of

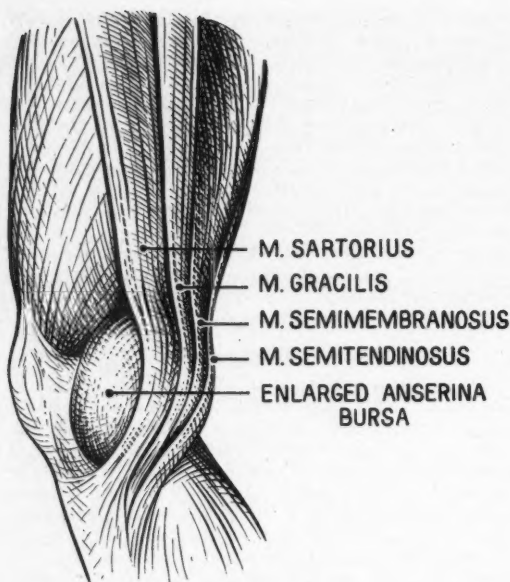


Figure 1

pain. In a roentgenogram of the knee a soft tissue mass, possibly with evidence of calcification, will be observed; but the knee joint and the tibia will have a normal appearance.

The bursa itself will usually be thick-walled and filled with an amber, gelatinous fluid. In some cases calcification may be present in the wall, or there may be osteocartilaginous bodies within the bursa. Microscopically there is little or no evidence of inflammatory reaction and the process can best be described as one of degeneration.

The preferred method of treatment in all except very minor cases is surgical excision of the bursa.

#### REPORT OF A CASE

The patient, a white male 48 years of age, was employed as a plumber. He was first observed in June 1950 with complaint of a swelling on the medial surface of the right knee.

During the preceding few months the swelling had rapidly increased in size. There was no history of trauma to the area, but for four years the patient had noted a small painful area in the same location as the swelling. The pain increased in cold and wintry weather. There was no complaint of limitation of motion or of stiffness of the knee.

In roentgenograms a tumor of the soft tissues on the medial aspect of the knee was noted. The bony structures and the knee joint appeared normal. There was no calcification of the tumor mass.

Erythrocytes in the blood numbered 4.95 million and the hemoglobin content was 14.9 gm. per 100 cc. Leukocytes numbered 10,800 with normal differential of cells. Results of serologic tests for syphilis were negative. The urine was normal.

On June 14, 1950, an enlarged anserina bursa was excised from the right knee. It was firmly attached to the tibia and the capsule of the knee joint, but no definite communication with the knee joint was observed. The bursa was 7 x 4 x 2.5 cm. in size and was filled with a thick, gelatinous material. In microscopic examination, myxomatous degeneration, without evidence of inflammatory reaction, was noted.

Recovery was uneventful. The patient was released from the hospital on the fourth postoperative day and since then has been asymptomatic.

#### SUMMARY

A case of anserina bursitis, a rarely reported disease, has been presented. The salient features of the case follow closely the classical pattern of the cases previously reported in the literature.

652 East Santa Clara Street.

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# California M E D I C I N E

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## EDITORIAL

### The 1951 Annual Session

On May 16 the California Medical Association concluded its 1951 Annual Session in Los Angeles, a meeting which was well attended—the registration exceeded 3,600—and from all appearances was most successful. Even the weather gave visitors reason to praise and residents occasion for pride. Reports indicate that members of the Woman's Auxiliary—the ladies, bless 'em—who turned out in force, managed to do a great deal of work yet find time for enjoyment too. Five guest speakers, including one from London, added immeasurably to the scientific tone of the meeting and contributed statements which drew widespread attention from the press. The newspapermen who reported the meeting were of a high order of their profession, and relations with them were pleasant. Technical exhibits were considered valuably informative to physicians at a time when they had leisure to look and listen.

If fault is to be found with the scientific side of the session it lies in the fact that the scientific sections have grown so fast in both size and interest that the attending members tend to overflow the available meeting rooms. This problem is increasing with the growth in size of the Association without corresponding growth in meeting rooms to accommodate the general and sectional meetings. The cooperation of the scientific sections in limiting the number of their meetings so as to make larger rooms available for all will go a long way toward solving this problem. Another suggestion which has been made is that other organizations hold their meetings a day in advance of the opening of the C.M.A. Annual Session or the day after it closes. An outstanding contribution to the smoothness of the Annual Session was the scheduling of the House of Delegates meetings so that they did not run concurrently with meetings of scientific sections.

On the business side, the House of Delegates met on three successive days, adopted a new Constitution and By-Laws with a minimum of friction or

discussion, elected new officers and ruled on the numerous resolutions presented by members of the House.

Chosen unanimously as President-Elect was Doctor Lewis A. Alesen of Los Angeles, a surgeon who has served as Speaker of the House of Delegates for the past five years and as a Delegate to the American Medical Association since 1949. He will follow in the footsteps of Doctor H. Gordon MacLean of Oakland, who assumed office as President at the close of the session.

For Speaker of the House of Delegates, Doctor Donald Charnock of Los Angeles was unanimously chosen to move up from his former post as Vice-Speaker. This latter position went to Doctor Henry A. Randel of Fresno on a ballot vote.

Under the new Constitution adopted at this session, the Delegates from Councilor Districts elect their own members of the Council, subject only to a challenge in the House of Delegates. The eleven Councilor Districts proceeded to their own selections, renaming seven of the former nine District Councilors and adding Doctors H. Clifford Loos and J. Philip Sampson of Los Angeles County and A. A. Morrison of Ventura County as District Councilors. Doctor Francis E. West, former Councilor-at-Large, was named District Councilor from San Diego County and Doctor A. E. Varden of San Bernardino was elected as Councilor-at-Large. Other incumbents were reelected. Doctor Albert C. Daniels was reappointed as Secretary-Treasurer and Doctor Dwight L. Wilbur as Editor.

Thus the California Medical Association starts off its new year with a Council two members larger than formerly, with some new faces at the official table and with a vast enthusiasm in all departments. New blood, new ideas and new energy should carry the Association through to a new high in accomplishment.

# CALIFORNIA MEDICAL ASSOCIATION

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## NOTICES AND REPORTS

### New Constitution, New By-Laws, New Officers

Adoption of a new Constitution and By-Laws and election of officers, councilors, and delegates to the American Medical Association were among actions taken by the House of Delegates of the California Medical Association at its 1951 Annual Session in Los Angeles last month.

Although amended in particular, the new Constitution and By-Laws are essentially the same as those proposed at the 1950 meeting and previously published in CALIFORNIA MEDICINE. (The document in the form in which it was passed will be published in full later.)

#### New Officers

Dr. H. Gordon MacLean of Oakland was installed as President of the Association and the following officers were elected:

President-elect—Dr. Lewis A. Alesen, Los Angeles.

Speaker of the House of Delegates—Dr. Donald A. Charnock, Los Angeles.

Vice-Speaker of the House of Delegates—Dr. Henry A. Randel, Fresno.

#### District Councilors, Councilors-at-Large

Under the new Constitution there are eleven councilor districts, and the district councilors are elected by the delegates from the respective districts. As previously, there are six councilors-at-large, elected by the House of Delegates. District councilors and councilors-at-large elected under the new Constitution are:

District	Term Expires
First—Dr. Francis E. West, San Diego.....	1952
Second—Dr. John D. Ball, Santa Ana.....	1953
Third—Dr. H. Clifford Loos, Los Angeles .....	1954
Fourth—Dr. J. Philip Sampson, Santa Monica .....	1952

Fifth—Dr. A. A. Morrison, Ventura.....	1953
Sixth—Dr. Neil J. Dau, Fresno.....	1954
Seventh—Dr. Hartzell H. Ray, San Mateo.....	1952
Eighth—Dr. M. Laurence Montgomery, San Francisco .....	1953
Ninth—Dr. Donald D. Lum, Alameda.....	1954
Tenth—Dr. John W. Green, Vallejo.....	1952
Eleventh—Dr. Wayne E. Pollock, Sacramento .....	1953

Councilors-at-large: Dr. Benjamin Frees, Los Angeles (1952); Dr. C. V. Thompson, Lodi (1952); Dr. Sidney J. Shipman, San Francisco (1953); Dr. Wilbur Bailey, Los Angeles (1953); Dr. A. E. Varden, San Bernardino (1954); Dr. Ivan C. Heron, San Francisco (1954).

The Council reappointed Dr. Albert C. Daniels, Secretary of the Association, and Dr. Dwight L. Wilbur, Editor.

#### Delegates to A.M.A.

Five delegates to the American Medical Association whose terms were expiring were reelected. They are: Dr. Robertson Ward, San Francisco; Dr. Sam J. McClendon, San Diego; Dr. Eugene F. Hoffman, Los Angeles; Dr. John W. Green, Vallejo; and Dr. Lewis A. Alesen, Los Angeles. Dr. Henry Gibbons III, San Francisco, was elected alternate for Dr. Ward, succeeding Dr. Anthony B. Diepenbrock, and Dr. A. E. Moore, San Diego, alternate for Dr. McClendon, succeeding Dr. Walter Cherry. Alternates for the other three delegates were reelected—Dr. Frederic S. Ewens alternate for Dr. Hoffman, Dr. Frank A. MacDonald for Dr. Green, and Dr. John Ball for Dr. Alesen.

#### C.M.A. Dues

California Medical Association dues for the calendar year 1952 were set at \$40 per member.



## In Memoriam

ALLISON, BLAKE S. Died in Long Beach, April 16, 1951, aged 74. Graduate of Lincoln Medical College, Eclectic, 1906. Licensed in California in 1920. Dr. Allison was a retired member of the Los Angeles County Medical Association, the California Medical Association, and a Fellow of the American Medical Association.

BARNES, JESSE W. Died in Stockton, April 27, 1951, aged 65, of a coronary. Graduate of Cooper Medical College, San Francisco, 1912. Licensed in California in 1912. Dr. Barnes was a retired member of the San Joaquin County Medical Society, the California Medical Association, and a Fellow of the American Medical Association.

COOLEY, MAHLON C. Died January 27, 1951, aged 61. Graduate of Meharry Medical College, Nashville, 1916. Licensed in California in 1918. Dr. Cooley was a member of the Los Angeles County Medical Association, the California Medical Association, and the American Medical Association.

DAVIS, DAVID B. Died in Los Angeles, April 11, 1951, aged 43, of rheumatic heart disease. Graduate of the University of Minnesota Medical School, Minneapolis, 1934. Licensed in California in 1934. Dr. Davis was a member of the Los Angeles County Medical Association, the California Medical Association, and a Fellow of the American Medical Association.

EHLERS, HENRY. Died in Fowler, April 25, 1951, aged 61, after a brief illness. Graduate of the University of California Medical School, Berkeley-San Francisco, 1914. Licensed in California in 1914. Dr. Ehlers was a member of the Fresno County Medical Society, the California Medical Association, and a Fellow of the American Medical Association.

HAMILTON, PAUL M. Died in Carlsbad, New Mexico, April 9, 1951, aged 67, of a coronary. Graduate of Johns Hopkins University School of Medicine, Baltimore, 1922. Licensed in California in 1924. Dr. Hamilton was a member of the Los Angeles County Medical Association, the California Medical Association, and a Fellow of the American Medical Association.

LYDA, EDWIN E. Died in San Bernardino, March 15, 1951, aged 37, of pulmonary and cerebral embolism. Graduate of St. Louis University School of Medicine, 1941. Licensed in California in 1942. Dr. Lyda was a member of the San Bernardino County Medical Society, the California Medical Association, and the American Medical Association.

MYERS, THOMAS C. Died in Los Angeles, April 9, 1951, aged 75. Graduate of the University of Southern California School of Medicine, Los Angeles, 1900. Licensed in California in 1900. Dr. Myers was a retired member of the Los Angeles County Medical Association, the California Medical Association, and an Associate Fellow of the American Medical Association.

PARTCH, WALLACE T. Died in Oakland, April 4, 1951, aged 52. Graduate of Rush Medical College, Chicago, 1926. Licensed in California in 1932. Dr. Partch was a member of the Alameda-Contra Costa Medical Association, the California Medical Association, and a Fellow of the American Medical Association.

PRENDERGAST, JOHN J. Died in San Diego, April 8, 1951, aged 45. Graduate of Stritch School of Medicine of Loyola University, Chicago, 1932. Licensed in California in 1941. Dr. Prendergast was a member of the San Diego County Medical Society, the California Medical Association, and a Fellow of the American Medical Association.

TURKUS, EDWARD N. Died in Vista, April 19, 1951, aged 61. Graduate of Long Island College of Medicine, Brooklyn, 1913. Licensed in California in 1922. Dr. Turkus was a member of the San Diego County Medical Society, the California Medical Association, and a Fellow of the American Medical Association.

# Questions and Answers about C. P. S.

**Question:** Are C.P.S. members supposed to bring their C.P.S. membership to the attention of physicians at the time of the first visit?

**Answer:** Yes, and C.P.S. stresses this point to members at the time they are enrolled. According to the strict interpretation of C.P.S. contracts, if a member neglects to inform the doctor of his C.P.S. membership at the time of the first visit (or the hospital at the time of admission) C.P.S. will not be responsible to the physician (or hospital) for the service benefits of the contract. In such cases, the member may be billed directly by the physician (or hospital). The member may then request reimbursement from C.P.S. for the amount which C.P.S. would have paid to the physician (or hospital) for the service rendered. Reimbursement requests must be made within 90 days of date of service.

**Question:** Will C.P.S. recognize bills incurred by members from physicians and hospitals outside California?

**Answer:** Yes. This is an appropriate question now as the summer vacation season is at hand and many members will be traveling outside the state. C.P.S. benefits apply anywhere in the world, providing service is obtained from licensed physicians and hospitals.

The procedure to be followed by members obtaining service outside California is: Pay the bill and get a receipt; attach the receipt to a "reimbursement request," filled out by the doctor or hospital, and send to C.P.S. within 90 days of date of service. ("Reimbursement requests" are available at any C.P.S. office. Members who plan out-of-state trips should take a small supply with them.) Reimbursements will be made (providing the service is a benefit of the member's contract) in the same amount which C.P.S. pays to California physicians and hospitals.

Physician members can be of service to their patients if this information is brought to their attention and if patients are reminded to carry their C.P.S. identification cards when traveling.

**Question:** Why has C.P.S. restricted x-ray and laboratory benefits in the new medical contract?

**Answer:** In the old medical contracts there was no dollar limit on the amount of x-ray and laboratory benefits. In the new medical contracts these benefits have been set at a maximum of \$25.00 each contract year for x-rays for illness and \$10.00 each contract year for laboratory services and allergy tests. This change, or restriction, has been made in order to make the two-visit-deductible medical con-

tract self-supporting. Experience under the old contracts showed an overbalance of claims for x-ray and laboratory services, and this overbalance was working against the over-all financial soundness of the contract.

**Question:** What is the customary length of time required by C.P.S. for payment of a bill submitted by a physician?

**Answer:** Physicians' bills which are received by the C.P.S. medical department by the 15th of the month are normally paid by the 10th of the following month. There are sometimes delays, however, in cases of accidents involving subrogation, or when billing forms do not provide sufficient information and physicians must be contacted for further information.

**Question:** What brought about the recent change whereby C.P.S., instead of Blue Cross, provides the hospital coverage for persons enrolled in the health plan for members of the California State Employees' Association?

**Answer:** This change, effective since May 1, results from action started several months ago by the C.S.E.A. board of directors, which directed the C.S.E.A. insurance committee to study proposals for having one underwriter statewide for the full C.S.E.A. health plan, instead of having the plan divided between C.P.S. and Blue Cross. Both non-profit and commercial organizations were asked to submit proposals, and, after considerable study, the insurance committee recommended that C.P.S. be selected. C.S.E.A. directors and the C.S.E.A. general council both approved the recommendation.

Thus, in addition to the medical, surgical and medical-while-hospitalized coverage which it was already providing for C.S.E.A. health plan members, C.P.S. now underwrites the hospital coverage as well. This hospital coverage, incidentally, is the old C.P.S. hospital contract (21 days' care at full cost and 345 days' care at half cost) rather than the new contracts which call for 50 or 100 days' care.

**Question:** A Spanish-American War veteran came to my office with a letter from the Veterans Administration in Washington, D. C., informing him that he was eligible for treatment under the new Public Law 791, and instructing him to present the letter to the nearest Veterans Administration office. Must he go either to San Francisco or Los Angeles to do this?

**Answer:** No. Have him sign the letter on the line provided, and then attach the letter to a Form 52 (request for authority to treat) and mail it to the C.P.S. Veterans Department in San Francisco or Los Angeles.

# NEWS and NOTES

NATIONAL • STATE • COUNTY

## ALAMEDA

Dr. Charles Edward Smith has been officially appointed Dean of the School of Public Health, University of California, Berkeley.

## LOS ANGELES

The first class of students in the **School of Nursing**, University of California at Los Angeles, will begin a four-year course of study next September. Dean Lulu K. Wolf is head of the new school. The school will also provide programs for registered nurses and for graduate students working for advanced degrees, it was announced.

\* \* \*

Dr. Robert H. Gans, Torrance, has been announced as winner of the California Tuberculosis and Health Association's Higby Memorial Award for 1951 for the best paper on non-medical aspects of tuberculosis. The award, with a prize of \$150, is given annually by the association in memory of the late Ford Higby, former executive secretary of the organization, and the late Valerie Higby.

\* \* \*

Dr. W. E. Macpherson has been elected president of the College of Medical Evangelists, replacing Dr. George T. Harding who had been president since 1948. Dr. Macpherson, who formerly was president from 1942 to 1948, has been dean and vice-president for the last three years. Dr. Harold Shryock was elected dean of the college and Dr. Varner J. Johns was named associate dean.

## SAN FRANCISCO

Dr. Sidney J. Shipman was elected president-elect of the National Tuberculosis Association at the organization's annual meeting in Cincinnati last month. Dr. Shipman will be installed as president when the association meets in Boston next year.

\* \* \*

The American College of Surgeons will hold its 37th annual Clinical Congress in San Francisco, November 5 to 9, 1951, with headquarters at the Fairmont Hotel and Civic Auditorium. The thirtieth annual Hospital Standardization Conference is scheduled to be held concurrently, with meetings in the Civic Auditorium, as a part of the congress. The combined programs will include scientific and technical exhibits, color television, cine clinics, medical motion pictures, scientific sessions, panel discussion, conferences, symposia, official meetings, and forums.

Dr. Emile Holman is chairman of the San Francisco committee on arrangements.

## TRINITY

Dr. G. P. Ashcraft of Weaverville has been appointed health officer for Trinity County, succeeding Dr. D. D. Thornton. Dr. Ashcraft will serve on a part-time basis.

## YOLO

Dr. John O. Raffety has been appointed Yolo County health officer, effective June 1. Dr. Raffety, who served in the same position from 1938 to 1940, will succeed Dr. John J. O'Hara who, with the assistance of other physicians in private practice, has been serving as health officer on a part-time basis.

## GENERAL

The Foundation of the American Society of Plastic and Reconstructive Surgery has announced a **contest for junior and senior awards** for original contributions in plastic surgery.

Junior Award: Two scholarships in plastic surgery of six and three months respectively. The contest is open to plastic surgeons in the specialty not longer than five years.

Senior Award: For the best essay on "Mass Treatment of Burns in Atomic Warfare."

The winning essays will appear on the program of the forthcoming annual meeting of the American Society of Plastic and Reconstructive Surgery to be held at Colorado Springs, Colorado, October 31 to November 2, 1951.

All entries must be received by the chairman not later than August 15, 1951. Full particulars may be obtained from the award committee, Jacques W. Maliniac, M.D., 11 East 68th Street, New York 21, N. Y.

\* \* \*

The second annual surgical conference of the **Reno Surgical Society** will be held August 23 to 25 at the Riverside Hotel in Reno, Nevada.

\* \* \*

Representatives from 54 chapters totaling 285 delegates, student members, and chapter faculty advisers assembled for the 25th anniversary celebration of **Alpha Epsilon Delta** at the University of Alabama, March 21 to 24. Features of the program included a memorial service and the fourth regional conference on premedical education.

California was represented at the convention by a delegate and faculty adviser from the University of Redlands.

The national office of Alpha Epsilon Delta is located at 37 Whitmarsh Road, Ardmore, Pa., under the supervision of Dr. Maurice L. Moore, the national secretary.

\* \* \*

The fourth annual meeting of the **American Association of Blood Banks** will be held in Minneapolis, October 22 to 24. Further details may be obtained from the secretary of the association, 3301 Junius Street, Dallas 1, Texas.

\* \* \*

The fifth annual congress of the **Pan-Pacific Surgical Association** is scheduled for November 7 to 19 in **Honolulu, Hawaii**. The scientific program will begin November 12 and continue through November 16. It was announced by Dr. E. J. Pinkerton, president of the association, that hotel and travel reservations should be made through the association's office, Suite 7, Young Hotel Building, Honolulu.

### POSTGRADUATE EDUCATION NOTICES

*For more complete information as to fees and time of sessions address the institutions as listed.*

#### UNIVERSITY OF CALIFORNIA SCHOOL OF MEDICINE, MEDICAL EXTENSION

##### Pediatric Conference:

June 18 through 22, 1951. Toland Hall, University of California Hospital. Fee \$50.00.

Guest Lecturer: Lawson Wilkins, M.D., Associate Professor of Pediatrics and Director of Endocrine Clinic, Johns Hopkins University.

##### Gynecological and Obstetrical Conference:

August 29 through 31, 1951. Room 104, University Extension Building, 540 Powell Street, San Francisco. Fee \$50.00.

For further information contact Stacy R. Mettier, M.D., Head of Postgraduate Instruction, Medical Extension, University of California Medical Center, San Francisco 22, California.

\* \* \*

#### COLLEGE OF MEDICAL EVANGELISTS

##### Diseases and Injuries of Bones and Joints (3 weeks):

July 9 to 30, 1951 (full time). Fee \$100.00.

For further information contact Harold M. Walton, M.D., Chairman Graduate and Postgraduate Medical Education.

#### STANFORD UNIVERSITY SCHOOL OF MEDICINE

##### Postgraduate Courses for Practicing Physicians:

General Medicine, General Surgery, Urology for General Practitioner, Practical Dermatology, Obstetrics and Gynecology, General Surgery, Surgical Anatomy, Cardiology, Diagnosis and Treatment of Tumors, Psychiatry for General Practitioners, Endocrinology, Pediatrics.

September 10-14, 1951. Fee \$75.00.

For further information contact W. H. Northway, M.D., Assistant Dean, Stanford University School of Medicine, San Francisco 15, California.

\* \* \*

#### LOS ANGELES HEART ASSOCIATION

##### Twenty-first Annual Postgraduate Symposium:

October 17, 18, 1951—Wilshire Ebell Theater.

Guest Speakers: Howard Sprague, M.D., President of the American Heart Association, and Dickinson W. Richards, Jr., M.D., Professor of Medicine, Columbia University.

Maurice L. Lipkis, M.D., Chairman, Symposium Committee, Los Angeles Heart Association, 123 N. San Vicente Blvd., Beverly Hills, California.

Dr. Ellis Sox, chief of the Division of Local Health Service, California State Department of Public Health, was elected president of the Association of State and Territorial Directors of Public Health Service at the organization's annual session held March 7 to 9 at Indianapolis.

\* \* \*

Dr. Charles F. McCuskey of Los Angeles has been named adviser on anesthesiology and Dr. Howard C. Naffziger, San Francisco, adviser on neurological surgery to the National Doctors Committee for Improved Federal Medical Services. They will consult with Dr. Robert Collier Page, chairman of the committee on matters of policy, in a campaign to secure economies and greater efficiency in hospital

and medical care operated by the government.

The National Doctors Committee is an affiliate of the Citizens Committee for the Hoover Report which is urging passage of the recommendations of the bipartisan Hoover Commission for unification of the various government medical agencies under a single authority.

\* \* \*

The National Gastroenterological Association has announced a course in postgraduate gastroenterology to be given at the Drake Hotel in Chicago, September 20 to 22.

Further information may be obtained and enrollment arranged by writing the National Gastroenterological Association, Department GSJ, 1819 Broadway, New York 23, N. Y.





## BOOK REVIEWS

**FUNDAMENTALS OF CLINICAL FLUOROSCOPY—With Essentials of Roentgen Interpretation.** By Charles B. Storch, M.D., Adjunct, Radiodiagnostic Department and Radiotherapy Department, Beth-El Hospital, Brooklyn, N. Y. Grune and Stratton, New York, 1951. 196 pages. \$6.75.

The stated purpose of this monograph is to "give the basic knowledge, indicate capacity and limitations, and make the actual learning process easier." In a group of six chapters the author takes you through the mechanics of production of the fluoroscopic image, the dangers of roentgenoscopy and the importance of adequate dark adaptation. Next come chapters on fluoroscopic examination of the chest, the heart, the upper alimentary tract, the stomach and finally the colon.

Most of the illustrations are good, but in order to indicate anatomic relationships, they are drawn as they would appear on a fully illuminated fluoroscopic screen. No experienced physician interested in his own or his patient's bone marrow will use a fully illuminated large fluoroscopic screen for more than a fraction of a second. This point cannot be overstressed, and it might be desirable for subsequent editions of the book to illustrate just the diagrams and omit the outline of the fully irradiated fluoroscopic screen.

The author is assistant radiologist at the Beth-El Hospital, New York, and a graduate of Edinburgh. The manual can be recommended for students and beginners in fluoroscopy, and if properly studied, will undoubtedly make the learning process easier. However, since fluoroscopic examination is only part of the roentgen examination of most of the viscera discussed, it is to be questioned whether the manual will really serve the purpose of improving the quality of diagnostic radiology.

The vast majority of the illustrations are from roentgenograms, not from photofluorograms or films made with the fluoroscope. They may, therefore, lead the uninitiated into excessive reliance on fluoroscopy alone.

The author indicates, but does not stress with adequate frequency, the important point that "The time to make the roentgenogram is when the fluoroscopic appearance is negative." If this important dictum were followed, more small and curable lesions would unquestionably be detected.

There are 217 illustrations and a fairly adequate bibliography.

\* \* \*

**AMINO ACIDS AND PROTEINS—Theory, Methods and Application.** Compiled and Edited by David M. Greenberg, Ph.D., Professor of Biochemistry and Chairman of the Division, University of California School of Medicine, Berkeley, California. Charles C. Thomas, Publisher, Springfield, Illinois, 1951. 950 pages. \$15.00.

This collaborative project by a group of outstanding contributors under the direction of Professor David Greenberg reviews in concise but complete form the broad field of the amino acids and proteins. The first four chapters concern properties of amino acids and methods for their determination. Subsequent chapters cover nutritional applications and metabolism. The remainder of the book describes the chemistry, physical properties, and biological importance of the proteins. To compress such an enormous subject into a book of reasonable size, some subjects are covered only in outline, supplemented by an extensive bibliography. This volume should serve as a useful and readable source of concise information for the advanced student or investigator, and as a valuable source of references to the extensive literature of the field. The physician might find much of the subject matter somewhat technical in nature, but the volume should prove useful as a reference work.

**NATURAL CHILDBIRTH—A Manual for Expectant Parents.** By Frederick W. Goodrich, Jr., M.D. Prentice-Hall, Inc., New York, 1950. 176 pages. \$2.95.

This book contains information which every expectant mother and father should acquire. It combines the usual prenatal information and instructions regarding the hygiene of pregnancy with the pertinent anatomical and physiological facts of pregnancy, and a detailed explanation of the events and routines to be expected both in the office and in the delivery room. In addition, it outlines the methods in use at Yale which in recent years have been heavily flavored with the advices of Grantly Dick Read. Emphasis is placed upon antenatal instruction to prospective mothers and fathers (this book might well serve as a manual for such a course), a series of exercises designed to enable the parturient to relax her muscles in labor so that the forces of nature may work more efficiently and with the production of less discomfort (excellent diagrams are included), rooming-in, and breast feeding. The book is written on the thesis that preparation for childbearing would convert an experience which is often disagreeable to one which is happy and emotionally satisfying to both the mother and the father of the newborn child. It presupposes that most of the disagreeable features of pregnancy and labor are due to fear (of the unknown and unfamiliar) which in turn leads to tension, which interferes with the efficiency of the body processes and leads to pain. It seeks to dispel fear by information and to supply an additional corrective for tension by teaching the art of relaxation.

Whether or not one subscribes to all of the routines suggested, the aims of the book are laudable, its tone is sympathetic and persuasive, and the information supplied is accurate and adequate without being wordy. (There are 168 pages.) It would be an excellent book to recommend to one's obstetrical patients.

My only criticism of the book is as follows: It tends to suggest that until the concept of "natural childbirth" came along, obstetrical practice was barbarous. The statement is made, "Pregnancy and labor still mean for most women nine long months of discomfort, followed by an experience which at best is extremely distasteful and at worst an ordeal." I do not believe that this is true and I feel that it may be harmful to plant this thought in the minds of the uninitiated. Many obstetricians who might otherwise like to use this book because of its numerous good qualities, might hesitate to do so because of this concept and because it might commit them to routines and practices which they do not employ.

\* \* \*

**TOXAEMIAS OF PREGNANCY—Human and Veterinary.** A Ciba Foundation Symposium. 93 illustrations. The Blakiston Company, Philadelphia, 1950. 280 pages. \$4.50.

This volume contains 26 original contributions presented a little over a year ago in London. Some are rather short notes, while others are quite comprehensive. Most of the articles are concerned with the specific toxemia of human pregnancy, but there are six dealing with pregnancy disorders in sheep or cows. These appear to be metabolic diseases such as hypocalcemia, ketosis or copper deficiency, and while they are of obvious importance in the field of veterinary medicine, they bear no resemblance to human toxemia and seem somewhat out of place in this symposium.

About half of the presentations dealing with toxemia of pregnancy in women are excellent, and for that reason alone the volume should be of interest to every obstetrician. The

pathology, hormonal changes and enzymatic aspects are each dealt with in three articles, while five are concerned with circulatory changes and five with etiologic considerations.

Several of the contributions should be singled out for special mention. The description of the pathological lesions in the hypertensive toxemias, presented by H. L. Sheehan, is superb and leaves one with the wish that this all too brief section might be expanded to monographic proportions. Dieckmann details his studies of the effects of intravenous sodium salts on the course of toxemia. He establishes the fact that 25 grams of salt per day causes an exacerbation of the toxemia syndrome in most cases (two developed convulsions and two others pulmonary edema). The protocols are of special interest, for it is doubtful whether any further reports on this type of "treatment" will appear.

Professor Kellar gives an excellent summary of the circulatory alterations in both normal and toxemic pregnancy, and Catherine Burt presents her original studies of forearm and hand blood flow during gestation. C. L. Schneider, who has written extensively in the last several years about the relation of placental thromboplastin to various complications of late pregnancy, presents a fine review of this new and intriguing subject.

With respect to etiology, the section by Theobald seems to give evidence of rather gray thinking, and Falkiner's advocacy of the placental infarct theory is somewhat trivial. Bastiaanse and Mastboom of Amsterdam present their views on the relationship of ischemia of the gravid uterus to the cause of eclampsia. This is a concept promulgated a decade ago by American investigators and further elaborated on a number of occasions since. Bastiaanse's contribution might have been improved had he chosen to refer to such work and bring it into focus with his own views.

Sommerville, deWatteville and Loraine present short articles on the hormone changes in toxemia and each of them is stimulating by virtue of instilling doubts about our prevailing concepts.

**THE SCIENCE OF HEALTH.** By Florence L. Meredith, B.Sc., M.D., Fellow of the American Medical Association, American Public Health and American Psychiatric Associations. Second edition. The Blakiston Company, Philadelphia, 1951. 452 pages. \$3.75.

Should one be charitable with authors who write short texts for college hygiene courses? That there is a demand for such books is certain; whether it should be indulged is doubtful, for by reducing a large and complex subject to small compass, the student may be given a false sense of values. The only justifications are that behavior may be modified in a way conducive to good health in students who will not or cannot take a more complete course, or that a short course and a short text may arouse interest which will lead to further study. The difficulties inherent in this situation are extremely troublesome, and it takes courage to attempt the task. Dr. Meredith has made a worthy effort to condense her longer "Hygiene," and has added some new material, but whether this volume will accomplish the purposes mentioned is doubtful. It touches upon mortality and morbidity statistics, anatomy and physiology, body responses to injury, first aid, a wide variety of disease processes, mental health, and sexual functions. Caution has been exercised to avoid strong statements which might be objectionable to practicing physicians, and thus it loses impact for the authoritative drive toward healthful behavior. At the same time, the explanations are inadequate to motivate health habits on a reasoned basis, and often so superficial as neither to satisfy or stimulate further study.

Dr. Meredith excels in the presentation of material on mental health, and this portion of her book can be used by practicing physicians as prescribed reading for patients with minor anxieties, particularly those in the young adult group.

It seems strange that although mental hygiene is handled by itself very well, its principles are neglected in other parts of the book. For example, it is implied that the individual should compute his caloric needs and accurately adjust his intake to meet them. This may be a valuable exercise for the hygiene student, but to be saddled with it as a continuing necessity for maintaining good health can hardly promote peace of mind.

The outstanding deficiencies of the book are the failure to focus attention on the wonderful capacity of the human organism for adjusting to environmental changes, and insufficient emphasis on the community aspects of health promotion. Its outstanding value is its reiteration of the admonition to seek competent professional advice when things go wrong.

**THE EXCEPTIONAL CHILD IN INFANCY AND EARLY CHILDHOOD**—Proceedings of the Annual Spring Conference on Education and the Exceptional Child Under the Auspices of the Child Research Clinic of The Woods Schools at Langhorne, Pennsylvania, May, 1950. Six papers, 48 pages. No charge.

This pamphlet has some exceedingly interesting material on its subject. It is a compilation of a series of lectures and presentations given by various doctors and psychologists. The first one of these is by Randolph K. Byers and is on the early recognition of developmental handicaps. The second one, by Margaret E. Fries, is on the early factors in establishing object relationship. Included in this was a film on the lying-in period which, of course, could not be reproduced; but the article itself is still rich in material. The third is by Ethel B. Waring, Ph.D., on exceptional children and principles for their guidance. The others cover such subjects as play as a learning process, the eating patterns of normal and exceptional children, and the development of oral language in children.

**THE AUDIOLOGY CLINIC—A Manual for Planning a Clinic for the Rehabilitation of the Acoustically Handicapped.** By Moe Bergman, Ed.D., Chief Audiologist, Audiology Clinic, New York Regional Office, Veterans Administration, New York City, U. S. A. Acta Oto-Laryngologica, Supplementum LXXXIX. 1950. The Audiology Foundation, 1104 Wabash Avenue, Chicago 5, Illinois. \$1.00.

The philosophy of rehabilitation of the hard of hearing and the deaf was set forth and expanded during World War II. The Veterans Administration has since carried on aural rehabilitation in centers throughout the country. The author has described in detail the Veterans Administration's first audiology clinic established in New York City. The monograph sets forth the necessary physical space for various phases of aural rehabilitation and details of its arrangement. The soundproofed suite of rooms is particularly interesting since construction plans are included. Block diagrams outline the electro-acoustical equipment used. The qualifications of personnel are amply noted. The over-all organization of the clinic is shown in detail. The description of this particular clinic by the author is adequate. It must be remembered by the student that this set-up is unique and serves a limited area and number of patients. Such an elaborate clinic is expensive to build and maintain and is not within the budget of universities or colleges. However, for those persons interested in modest programs of aural rehabilitation this monograph can be used advantageously for reference since it includes all organizational phases of the subject, even to the point of listing manufacturers of electro-acoustical equipment.

This is the first successful comprehensive attempt by any author to bring together all the multiple organizational phases of the subject and in the field of aural rehabilitation this monograph will take its place as a standard for other workers. As the author points out, the details of specific communicative skills are not included, so such information must be sought elsewhere.







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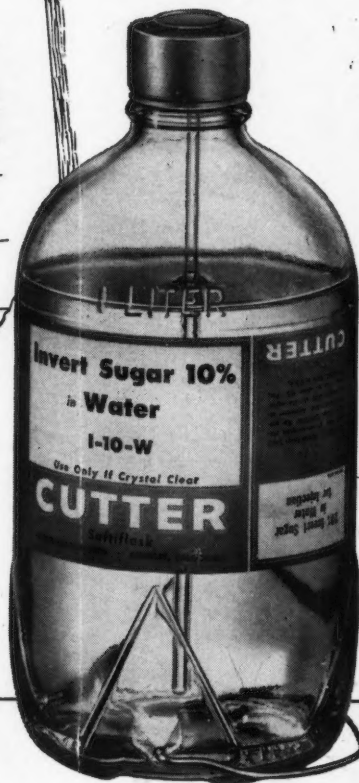
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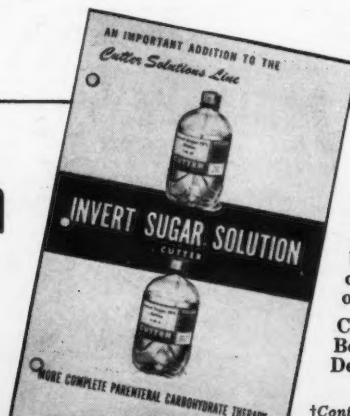
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